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OF THE

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Published under the supervision of the Publication Committee:

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Address all communications to the Editor, University of Pittsburgh, Pittsburgh, Pa.

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ADAMS, F. J., Instructor in Electrical Engineering, Worcester Polytechnic Institute, Worcester, Mass. 1912

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ALLEN, C. F., Professor of Railroad Engineering, Massachusetts Institute of Technology, Boston, Mass. 1893

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ANDERSON, D. S., Professor of Electrical Engineering, Tulane University, New Orleans, La. 1900

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BENSEL, J. A., New York State Engineer and Surveyor, Albany, N. Y. 1910

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BERRESFORD, A. W., Vice-President and General Manager, The Cutler-Hammer Mfg. Co., Milwaukee, Wis. 1911

BERRY, W. J., Assistant Professor of Mathematics, Polytechnic Institute of Brooklyn, Brooklyn, N. Y..... 1910

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BEYER, S. W., Vice-Dean of the Division of Engineering and Professor of Geology and Mining Engineering, Iowa State College, Ames, Ia. 1899

BIEGLER, P. S., Associate in Electrical Engineering, University of Illinois, Urbana, Ill. 1908

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BISHOP, F. L., Dean School of Engineering, Professor of Physics, University of Pittsburgh, Pittsburgh, Pa. 1907

BISSELL, G. W., Dean of Engineering and Professor of Mechanical Engineering, Michigan Agricultural College, East Lansing, Mich. 1894

BITTING, H. S., President of the Williamson Free School of Mechanical Trades, Williamson School, Delaware Co., Pa. 1909

BIXBY, F. L., Professor of Irrigation Engineering, New Mexico College of A. and M. Arts, State College, New Mexico; Irrigation Engineer, U. S. Department of Agriculture, in charge of Irrigation Investigations in New Mexico 1910

BIXBY, W. H., General, U. S. Army, Retired, 735 Southern Bldg., Washington, D. C. 1898

BLACK, R. M., Assistant Professor of Mining, University of Pittsburgh, Pittsburgh, Pa. 1912

BLACKBURN, H. W., Instructor in Mechanical Engineering, University of Vermont, Burlington, Vt. 1912

BLAIR, T. A., Draftsman, Robt. McF. Doble, Consulting Engineer, Placerville, Colo. 1913

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BLANCHARD, A. H., Professor of Highway Engineering, Columbia University, New York, N. Y. 1902

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BOARDMAN, H. S., Dean of the College of Technology and Professor of Civil Engineering, University of Maine, Orono, Me. 1903

BOGARD, FRANK, Supt., Mechanic Arts Course, Louisiana Industrial Institute, Ruston, La. 1914

BOLTON, F. C., Professor of Electrical Engineering, Texas A. and M. College, College Station, Texas 1910

BOOMSLITER, G. P., Instructor in Theoretical and Applied Mechanics, University of Illinois, Urbana, Ill. 1912

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BRACKETT, B. B., Professor of Electrical Engineering, South Dakota State College of A. and M. Arts, Brookings, S. D. 1906

BRADFORD, J. N., Professor of Architecture and University Architect, The Ohio State University, Columbus, O. 1896

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BROOKS, J. ANSEL, Associate Professor of Mechanics and Mechanical Drawing, Brown University, Providence, R. I. 1904

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BROWN, CHAS. B., Professor of Railroad Engineering, University of Maine, Orono, Me. 1912

BROWN, F. D., Consulting Engineer, City Hall, Shawnee, Okla. ... 1912

BROWN, F. L., Assistant Professor of Mechanics, University of Kansas, Lawrence, Kans. 1915

BROWN, HENRY B., President, Valparaiso University, Valparaiso, Ind., ... 1908

BROWN, (MRS.) KATHARINE D., Professor of Engineering English, Drexel Institute, Philadelphia, Pa. 1914

BROWN, S. L., Adjunct Professor of Physics, University of Texas, Austin, Tex. 1914

BROWNE, WM. HAND, Jr. Professor of Physics and Electrical Engineering, North Carolina College of A. and M. Arts, West Raleigh, N. C. 1899

BRUEGEL, A. T., Secretary, The Hess-Bright Mfg. Co., Front St. and Erie Ave., Philadelphia, Pa. 1900

BRYANS, W. R., Associate Professor in the School of Applied Science, New York University, New York, N. Y. 1908

BRYANT, J. M., Professor of Electrical Engineering, University of Texas, Austin, Tex. 1910

BRYDEN, CHAS. L., Principal, School of Metal Mining and Metallurgy, International Correspondence School, Scranton, Pa..... 1912

BRYDONE-JACK, E. E., Professor of Civil Engineering, University of Manitoba; Consulting Engineer, Winnipeg, Man. 1902

BUCK, A. M., Assistant Professor of Railway Electrical Engineering, University of Illinois, Urbana, Ill. 1910

BUMP, M. R., General Manager, Empire District Electrical Co., Chief Engineer, Henry H. Doherty & Co., 60 Wall St., New York, N. Y. 1907

BURGER, W. H., Assistant Professor of Civil Engineering, Northwestern University, Evanston, Ill. 1910

BURGESS, C. F., Chemical Engineer and President of Northern Chemical Engineering Laboratories, Madison, Wis. 1896

BURNS, C. S., Consulting Hydraulic Engineer, Firm of Burns & McDonnell, Kansas City, Mo. 1910

BURNSIDE, C. H., Assistant Professor of Mechanics, Columbia University, New York, N. Y. 1910
BURPEE, F. E., Professor of Mechanical Engineering, Bucknell University, Lewisburg, Pa. 1910
BURR, W. H., Professor of Civil Engineering, Columbia University, New York, N. Y. 1893
BURSLEY, J. A., Junior Professor of Mechanical Engineering, University of Michigan, Ann Arbor, Mich. 1910
BURT, H. J., Structural Engineer, Holabird & Roche, Architects, 1027 Elmwood Ave., Wilmette, Ill. 1910
BURTON, A. E., Professor of Topographical Engineering, in charge of Department of Drawing, and Dean of the Massachusetts Institute of Technology, Boston, Mass. 1904
BUTTERFIELD, A. D., Professor of Mathematics, Worcester Polytechnic Institute, Worcester, Mass. 1908
BUYERS, A. S., 2d Lieutenant, C. A. C., U. S. A., Fort Hancock, N. J. 1912
BUYERS, D. E., Instructor in Mechanical Engineering, Oregon Agricultural College, Corvallis, Ore. 1914
CAJORI, FLORIAN, Dean of the Department of Engineering, Professor of Mathematics, Colorado College, Colorado Springs, Colo. 1904
CALDERWOOD, J. P., Associate Professor of Mechanical Engineering, Pennsylvania State College, State College, Pa. 1909
CALDWELL, EDWARD, Treasurer of the McGraw-Hill Book Co., Inc., 239 W. 39th St., New York, N. Y. 1905
CALDWELL, F. C., Professor of Electrical Engineering, Ohio State University, Columbus, O. 1897
CALLAGHAN, R. T., Professor of Civil Engineering, Christian Brothers College, St. Louis, Mo. 1914
CALLAN, J. A. C., Instructor in Civil Engineering and Drawing, Union University, Schenectady, N. Y. 1909
CALNAN, J. W., Instructor in charge of Department of Chemistry, Franklin Union, Boston, Mass. 1910
CAMP, W. M., Editor *Railway Review*, 7740 Union Ave., Chicago, Ill. 1904
CARLSON, W. W., Associate Professor of Shop Practice and Superintendent of Shops, Kansas State Agricultural College, Manhattan, Kans. 1912
CARNEGIE, ANDREW, 2 E. 91st St., New York, N. Y. (Life Member). 1911
CARPENTER, H. D., 1910 Grove St., Morgan Park, Ill. 1910
CARPENTER, L. G., Consulting Engineer, 707 First National Bank Bldg., Denver, Colo. 1895
CARPENTER, RANDLE C., Professor of Mechanical Engineering, Mississippi A. & M. College, Agricultural College, Miss. 1914

LIST OF MEMBERS.

CARPENTER, R. C., Professor of Experimental Engineering, Cornell University, Ithaca, N. Y. 1910

CARROLL, H. H., Assistant Professor Technical Drawing, Tufts College, Tufts College, Mass. 1911

CARSON, W. W., Professor of Civil Engineering, University of Tennessee, Knoxville, Tenn. 1894

CARTER, CHAS. J., Instructor in Machine and Foundry Practice, University of Maine, Orono, Me. 1913

CARTER, H. G., Assistant Electrical Engineer, Public Works Department, Sydney, New South Wales, Australia 1914

CARTY, J. J., Chief Engineer, American Telephone and Telegraph Co., 15 Dey St., New York, N. Y. 1907

CASE, G. W., Professor of Sanitary Engineering, University of Pittsburgh, Pittsburgh, Pa. 1914

CATLIN, W. G., Instructor in Electrical Engineering, Cornell University, Ithaca, N. Y. 1912

CAUGHEY, R. A., Assistant Professor Civil Engineering, Pennsylvania State College, State College, Pa. 1911

CHANDLER, E. F., Professor of Civil Engineering, and in charge of Civil Engineering Course, University of North Dakota, University, N. D. 1907

CHANEY, G. A., Associate Professor of Mathematics, Iowa State College, Ames, Ia. 1914

CHARAVAY, M. A., Assistant Professor of Experimental Engineering, Stevens Institute of Technology, Hoboken, N. J. 1914

CHARLES, R. L., Assistant Professor of Physics, Lehigh University, South Bethlehem, Pa. 1914

CHASE, C. F., Professor of Agricultural Engineering, and Head of Agricultural Engineering Department, North Dakota Agricultural College, Agricultural College, N. D. 1912

CHASE, C. H., Professor of Steam Engineering, Tufts College, Tufts College, Mass. 1900

CHASE, L. W., Professor of Agricultural Engineering, University of Nebraska, Lincoln, Nebr. 1910

CHATBURN, G. R., Professor and Head of the Department of Applied Mechanics and Machine Design, University of Nebraska, Lincoln, Nebr. 1899

CHESNEY, C. C., Manager and Chief Engineer, General Electric Co., Pittsfield, Mass. 1911

CHILDS, A. T., Associate Professor of Electrical Engineering, University of Maine, Orono, Me. 1912

CHRISTENSEN, GEO. L., Professor of Mechanical Engineering, Michigan College of Mines, Houghton, Mich. 1905

LIST OF MEMBERS.

CHRISTIAN, J. W., Instructor in Mechanical Engineering, University of Colorado, Boulder, Colo. 1914

CHURCH, E. F., JR., Professor of Machine Design and Construction, West Virginia University, Morgantown, W. Va. 1910

CHURCH, I. P., Professor of Applied Mechanics and Hydraulics, Cornell University, Ithaca, N. Y. 1910

CLAPP, W. H., Associate Professor of Steam Engineering and Machine Design, Throop College of Technology, Pasadena, Calif. 1914

CLARK, J. C., Assistant Professor of Electrical Engineering, Leland Stanford Jr. University, Stanford University, Calif. 1912

CLARK, J. J., Dean of the Faculty, International Correspondence Schools and Manager of the Textbook Department, International Textbook Co., Scranton, Pa. 1906

CLEGHORN, M. P., Associate Professor of Mechanical Engineering, Iowa State College, Ames, Ia. 1910

CLIFFORD, H. E., Gordon McKay Professor of Electrical Engineering, Harvard University and Massachusetts Institute of Technology, Cambridge, Mass. 1907

CLIFTON, H. T., Teacher in Physics and Geology, and Registrar, Pasadena High School, Pasadena, Calif. 1907

CLOKE, PAUL, Professor of Physics, Clarkson College of Technology, Potsdam, N. Y. 1911

COBB, H. E., Professor and Head of Department of Mathematics, Lewis Institute, Chicago, Ill. 1908

COCKBURN, J. R., Assistant Professor of Descriptive Geometry, University of Toronto, Toronto, Ont., Can. 1914

CODDINGTON, E. F., Professor of Mechanics, Ohio State University, Columbus, O. 1911

CODWISE, H. R., Assistant Professor of Civil Engineering, Polytechnic Institute of Brooklyn, Brooklyn, N. Y. 1914

COFFIN, C. A., Chairman, Board of Directors, General Electric Co., 30 Church St., New York, N. Y. 1911

COMSTOCK, C. E., Professor of Mathematics, Bradley Polytechnic Institute, Peoria, Ill. 1909

COMSTOCK, E. H., Professor of Mine Plants and Mechanics, School of Mines, University of Minnesota, Minneapolis, Minn. 1907

COMSTOCK, F. M., Professor of Descriptive Geometry, Case School of Applied Science, Cleveland, O. 1907

CONKLING, L. D., Professor of Civil Engineering, Montana State A. & M. College, Bozeman, Mont. 1912

CONNER, S. L., Assistant Professor of Railroad Engineering, Tufts College, Tufts College, Mass. 1912

CONRAD, L. E., Professor of Civil Engineering, Kansas State Agricultural College, Manhattan, Kans. 1908

CONSTANT, F. H., Professor of Civil Engineering, Princeton University, Princeton, N. J. 1896

CONVERSE, C. W., Assistant Professor of Electrical Engineering, University of Oregon, Eugene, Ore. 1911

COOK, A. L., Head of the Dept. of Applied Electricity, Pratt Institute, Brooklyn, N. Y. 1913

COOK, PAUL, Secretary and Treasurer of W. & L. E. Gurley, and Treasurer of Rensselaer Polytechnic Institute, Troy, N. Y. .. 1913

COOK, ROBERTSON, Professor of Experimental Engineering, South Dakota State College, Brookings, S. D. 1913

COOKE, M. L., Director, Department Public Works, 216 City Hall, Philadelphia, Pa. 1910

COOLEY, M. E., Professor of Mechanical Engineering and Dean of the Departments of Engineering and Architecture, University of Michigan, Ann Arbor, Mich. 1893

COOMBS, S. E., Assistant Engineer, N. Y. C. & H. R. R. R. and Instructor in Mechanical Drawing, New York Evening High School for Men, Room 5609, 70 East 45th St., New York, N. Y. 1913

COOPER, F. L., Instructor in Physics, Yale University, New Haven, Conn. 1912

COPPERSMITH, C. W., Instructor in Mechanical Engineering, Case School of Applied Science, Cleveland, O. 1915

CORBETT, L. J., Professor of Electrical Engineering, University of Idaho, Moscow, Ida. 1912

CORNELL, W. R., Instructor in Applied Mechanics, Cornell University, Ithaca, N. Y. 1910

CORP, C. I., Assistant Professor of Hydraulic Engineering, University of Wisconsin, Madison, Wis. 1910

CORTHELL, ELMER L., Civil and Consulting Engineer, 149 Broadway, New York, N. Y. 1895

CORY, C. L., Dean, College of Mechanics and Professor of Electrical Engineering, University of California, Berkeley, Calif. 1915

CORY, M. M., Instructor in Electrical Engineering, Michigan Agricultural College, East Lansing, Mich. 1912

COSTER, E. L., Literary Engineer, 25 Broad St., Rooms 1440–45, New York, N. Y. (Life Member) 1911

COVELL, G. A., Dean of the School of Engineering and Mechanic Arts, Oregon Agricultural College, Corvallis, Ore. 1908

CRAIG, OLLISON, Acting Professor of Mechanical Engineering, University of Texas, Austin, Tex. 1913

CRANDALL, CARL, Instructor in Civil Engineering, Cornell University, Ithaca, N. Y. 1914

LIST OF MEMBERS.

CRANDALL, CHAS. L., Professor of Railroad Engineering, Cornell University, Ithaca, N. Y. 1893

CRANDELL, J. S., Assistant Professor of Civil Engineering, Pennsylvania State College, State College, Pa. 1912

CRANE, H. G., Instructor in Electrical Engineering, Harvard University, Cambridge, Mass. 1908

CRATHORNE, A. R., Associate in Mathematics, University of Illinois, Urbana, Ill. 1911

CRAWFORD, D. F., General Superintendent Motive Power, Pennsylvania Lines, and Director of Railway Mechanical Engineering, University of Pittsburgh, Pittsburgh, Pa. 1914

CRAWFORD, I. C., Instructor in Civil Engineering, University of Colorado, Boulder, Colo. 1913

CREAGMILE, WM. B., School of Engineering, Drexel Institute, Philadelphia, Pa. 1909

CREIGHTON, E. E. F., Consulting Engineer, General Electric Co., Union University, Schenectady, N. Y. 1910

CREIGHTON, W. H. P., Dean of the College of Technology and Professor of Mechanical and Sugar Engineering, Tulane University, New Orleans, La. 1893

CRENSHAW, B. H., Professor of Mathematics, Alabama Polytechnic Institute, Auburn, Ala. 1894

CROCKETT, CHAS. W., Professor of Mathematics and Astronomy, Rensselaer Polytechnic Institute, Troy, N. Y. 1912

CROSBY, W. W., Consulting Engineer and Chief Engineer, Maryland Geological and Economic Survey, 1431 Munsey Bldg., Baltimore, Md. 1911

CROSS, HARDY, Assistant Professor of Civil Engineering, Brown University, Providence, R. I. 1912

CROUCH, C. H., Professor of Mechanical Engineering and Dean of the College of Mechanical and Electrical Engineering, University of North Dakota, Grand Forks, N. D. 1907

CROW, RAY, Professor of Civil Engineering, Highland Park College, Des Moines, Ia. 1913

CROWE, C. P., 1627 N. High St., Columbus, O. 1913

CRUM, R. W., Associate Professor of Civil Engineering, Iowa State College, Ames, Ia. 1912

CULLIMORE, A. R., Professor of Civil Engineering and Dean of the College of Industrial Science, The Toledo University, Toledo, O. 1914

CURTIS, L. F., Instructor in Electrical Engineering, University of Washington, Seattle, Wash. 1913

DADOURIAN, H. M., Instructor in Physics, Yale University, New Haven, Conn. 1913

LIST OF MEMBERS.

DAGGETT, P. H., Professor of Electrical Engineering, University of North Carolina, Chapel Hill, N. C. 1910

DALAKER, H. H., Assistant Professor of Mathematics, in Engineering College, University of Minnesota, Minneapolis, Minn. 1909

DALBURG, F. A., Assistant, Division of Mines, Bureau of Science, Ralston, Pa. 1908

DALTON, B. J., Assistant District Engineer, Interstate Commerce Commission, 1020 McGee St., Kansas City, Mo. 1907

DAMON, GEO. A., Consulting Engineer, Los Angeles, Calif.; Dean, Throop College of Technology, Pasadena, Calif. 1911

DANFORTH, R. E., General Manager, Public Service Railway Co., Newark, N. J. 1910

DANFORTH, R. H., Professor of Mechanics and Hydraulics, Case School of Applied Science, Cleveland, O. 1914

DANIELS, JOSEPH, Assistant Professor of Mining Engineering and Metallurgy, University of Washington, Seattle, Wash. 1910

DARGAN, F. T., Professor of Electrical Engineering, Clemson A. & M. College of South Carolina, Clemson College, S. C. 1912

DATES, H. B., Professor of Electrical Engineering, Case School of Applied Science, Cleveland, O. 1904

DAVIS, CHAS. HENRY, South Yarmouth, Mass. 1911

DAVIS, E. W., Dean College of Arts and Science, and Head of Department of Mathematics, University of Nebraska, Lincoln, Nebr. 1902

DAVIS, GEO. J., JR., Dean and Professor of Civil Engineering, University of Alabama, University, Ala. 1913

DAVIS, JAS. C., Assistant Professor of Mechanical Drawing, Worcester Polytechnic Institute, Worcester, Mass. 1909

DAVIS, JOHN C., Dean of the College of Applied Science and Engineering, Marquette University, Milwaukee, Wis. 1908

DAVIS, N. F., Professor of Mathematics, Brown University, Providence, R. I. 1910

DAVIS, R. E., Instructor in Civil Engineering, University of Illinois, Urbana, Ill. 1913

DAVIS, R. P., Professor of Structural and Hydraulic Engineering, West Virginia University, Morgantown, W. Va. 1912

DAVOUD, V. Y., Electrical and Mechanical Engineer, The Telluride Power Co., Provo, Utah. 1911

DAWES, C. L., Instructor in Electrical Engineering, Harvard University, Cambridge, Mass. 1915

DAY, CHARLES, Manager of the firm of Day & Zimmerman, Engineers, 608 Chestnut St., Philadelphia, Pa. 1911

DEARBORN, C. S., Professor of Mechanical Engineering, Montana State College of A. and M. Arts, Bozeman, Mont. 1910

DEEDS, EDW. A., Vice-President, National Cash Register Co., Dayton, O. 1911
DEFOE, L. M., Professor of Mechanics, University of Missouri, Columbia, Mo. 1904
DEIMEL, R. F., Assistant Professor of Mechanics, Stevens Institute of Technology, Hoboken, N. J. 1909
DELAY, F. A., 72 W. Adams St., Chicago, Ill. 1909
DEMOREST, D. J., Assistant Professor of Metallurgy and Mineralogy, The Ohio State University, Columbus, O. 1913
DENN, H. H., Instructor in Mechanical Drawing, Drexel Institute, Philadelphia, Pa. 1914
DENNISON, B. C., Assistant Professor of Electrical Engineering, Carnegie Institute of Technology, Pittsburgh, Pa. 1912
DENNY, GEO. H., President, University of Alabama, University, Ala. 1913
DENT, J. A., Associate in Mechanical Engineering, University of Illinois, Urbana, Ill. 1911
DENTON, F. W., General Manager of Mines, Copper Range Consolidated Co., Painesdale, Mich. 1894
DEPUY, C. E., Professor of Machine Construction, Lewis Institute, Chicago, Ill. 1908
DERLETH, CHAS., JR., Professor of Civil Engineering and Dean of the College of Civil Engineering, University of California, Berkeley, Calif. 1904
DESCHWEINITZ, P. B., Professor of Machine Design, Lehigh University, South Bethlehem, Pa. 1912
DETURK, J. A., Instructor in Machine Shop Practice, University of Illinois, Urbana, Ill. 1915
DIBERT, H. M., Civil Engineer with W. & L. E. Gurley, Troy, N. Y. 1913
DICKERSON, H. S., Assistant Professor of Mechanical Engineering, Purdue University, LaFayette, Ind. 1912
DICKENSON, L. P., Professor of Physics and Electrical Engineering, Rhode Island State College, Kingston, R. I. 1914
DICKINSON, W. E., Professor of Electrical Engineering, West Virginia University, Morgantown, W. Va. 1909
DIEMER, HUGO, Professor of Industrial Engineering, Pennsylvania State College; Consulting Industrial Engineer, State College, Pa. 1902
DIETZ, J. W., Manager, Educational Department, Western Electric Co., Hawthorne Station, Chicago, Ill. 1911
DILLINGHAM, ALEXANDER, Assistant Professor of Mathematics, Tufts College, Tufts College, Mass. 1912
DOBBS, F. E., Instructor in Estimating and Practical Mathematics, Wentworth Institute, Boston, Mass. 1912

DOGGETT, L. A., Professor of Electrical Engineering, U. S. Naval Academy, Annapolis, Md. 1914

DOHERTY, H. L., President, The Denver Gas and Electric Co., 60 Wall St., New York, N. Y. 1904

DOLAND, J. J., Instructor in Engineering Mathematics, University of Colorado, Boulder, Colo. 1914

DOMONOSKE, ARTHUR B., Instructor in Machine Design, University of Illinois, Urbana, Ill. 1913

DOOLEY, C. R., Educational Director, Westinghouse Electric and Mfg. Co., and President of the Casino Technical Night School, East Pittsburgh, Pa. 1907

DORSEY, J. W., Assistant Professor of Electrical Engineering, University of Manitoba, Winnipeg, Man. 1909

DOUGHERTY, N. W., Assistant Professor of Civil Engineering, George Washington University, Washington, D. C. 1914

DOUGLAS, J. F. H., Instructor in Physics, Iowa State College, Ames, Ia. 1910

DRANE, W. H., Professor of Mathematics and Engineering, Cumberland University, Lebanon, Tenn. 1903

DREYER, C. F., Head of the Department of Mechanical Engineering, Escola de Engenharia, Porto Alegre, Brazil 1913

DRINKER, H. S., President, Lehigh University, South Bethlehem, Pa. 1905

DROWNE, H. B., Instructor in Highway Engineering, Columbia University, New York, N. Y.; Engineer, Lane Construction Corporation, Meriden, Conn. 1908

DU BOIS, A. J., Professor of Civil Engineering, Yale University, New Haven, Conn. 1894

DUFF, C. M., Engineer, Field Erection, Morava Construction Co., 1043 Peoples Gas Bldg., Chicago, Ill. 1912

DUFOUR, F. O., Senior Structural Engineer, Division of Valuation, Interstate Commerce Commission, 914 Karpen Bldg., Chicago, Ill. 1906

DUKES, R. G., Professor of Applied Mechanics, Purdue University, LaFayette, Ind. 1907

DUNCAN, LOUIS, with the Firm of Duncan, Young & Pressey, Inc., 50 Church St., New York, N. Y. 1904

DUNCAN, M. M., Agent, Cleveland Cliffs Iron Co., and Member Board of Control, Michigan College of Mines, Ishpeming, Mich. 1905

DUNHAM, HEBER, Instructor in Mechanical Drawing, New York University, New York, N. Y. 1914

DUNKIN, W. V., Chief Draftsman, Experimental Department, Deere & Co., 1656 30th St., Moline, Ill. 1908

DUNMORE, G. B., Professor of Drafting, Whitman College, Walla Walla, Wash. 1911

DUNN, GANO, President, J. G. White Engineering Corporation, 43 Exchange Place, New York, N. Y. 1911
DUNSTAN, E. V., Professor of Civil Engineering, George Washington University, Washington, D. C. 1909
DUPONT, T. C., Wilmington, Del. (Life Member) 1910
DURAND, W. F., Professor of Mechanical Engineering, Leland Stanford Junior University, Stanford University, Calif. 1899
DURHAM, GLEN G., Salesman, Allis-Chalmers Mfg. Co., c/o Horton Machine Works, Elmira, N. Y. 1913
DWIGHT, H. B., Professor of Mechanics, University of Oklahoma; Electrical Engineer, Norman, Okla. 1912
DYCHE, H. E., Assistant Professor of Electrical Engineering, University of Pittsburgh, Pittsburgh, Pa. 1914
DYER, F. C., Lecturer in Mining Engineering, Faculty of Applied Science, University of Toronto, Toronto, Ont., Canada 1913
DYSART, P. M., Physics Dept., Pittsburgh Central High School, Pittsburgh, Pa. 1911
EARLE, S. B., Director of the Engineering Department, and Professor of Mechanical Engineering, Clemson Agricultural College of South Carolina, Clemson College, S. C. 1912
EARLE, S. C., Professor of English, Engineering School, Tufts College, Mass. 1909
EASBY, WM., JR., Professor of Municipal Engineering, University of Pennsylvania, Philadelphia, Pa. 1908
EATON, J. S., Instructor in Mechanical Practice, University of Vermont, Burlington, Vt. 1914
EBAUGH, W. C., Professor of Chemistry, University of Utah, Salt Lake City, Utah 1908
ECKEL, C. L., Instructor in Civil Engineering, University of Colorado, Boulder, Colo. 1914
ECKHARD, G. F., Associate Professor of Structural Engineering, Pennsylvania State College, State College, Pa. 1910
EDDISON, WM. B., Assistant in Department of Mechanical Engineering, Columbia University, New York, N. Y. 1914
EDDY, C. L., Assistant Professor of Railway Engineering, Case School of Applied Science, Cleveland, O. 1910
EDDY, H. T., Dean of the Graduate School and Emeritus Professor of Mathematics and Mechanics, College of Engineering, University of Minnesota, Minneapolis, Minn. 1893
EDGECOMB, R. E., Assistant Professor of Civil Engineering, Oregon Agricultural College, Corvallis, Ore. 1912
EDMANDS, S. S., Director, School of Science and Technology, Pratt Institute, Brooklyn, N. Y. 1903

EDWARDS, EVAN J., Engineering Department, National Lamp Works, General Electric Co., Nela Park, Cleveland, O. 1911
EDWARDS, WM. M., Professor of Civil and Municipal Engineering, University of Alberta, Edmonton South, Alberta, Canada 1914
EDWARDS, W. W., Head of Dept. of Applied Mechanics, Wentworth Institute, Boston, Mass. 1913
EGBERT, H. V., Teaching Mathematics, West Technical High School, Cleveland, O. 1907
EHLERS, H. E., Professor of Experimental Engineering, University of Pennsylvania, Philadelphia, Pa. 1912
EINSTEIN, A. C., Vice President and General Manager, Union Electric Light and Power Co., St. Louis, Mo. 1911
ELLIOT, B. G., Instructor in Mechanical Engineering, Extension Department, University of Wisconsin, Madison, Wis. 1912
ELLIS, FREDERICK, Instructor in Wood Working, Technical High School, Edmonton, Alberta, Canada..... 1912
ELLIS, W. T., Assistant Professor of Mechanical Engineering, North Carolina College of A. and M. Arts, West Raleigh, N. C. 1910
ELY, JOHN A., Professor of Surveying and Engineering, St. Johns University, Shanghai, China 1914
EMERSON, WM. H., Dean and Professor of Chemistry, Georgia School of Technology, Atlanta, Ga. 1912
EMORY, F. L., Professor of Mechanics and Applied Mathematics, West Virginia University, Morgantown, W. Va. 1894
EMRICK, PAUL S., Instructor in Electrical Engineering, Purdue University, La Fayette, Ind. 1914
EMSWILER, J. E., Assistant Professor of Mechanical Engineering, University of Michigan, Ann Arbor, Mich. 1912
ENDSLEY, L. E., Consulting Engineer; Professor of Railway Mechanical Engineering, University of Pittsburgh, Pittsburgh, Pa. 1907
ENGER, M. L., Assistant Professor of Theoretical and Applied Mechanics, University of Illinois, Urbana, Ill. 1907
ENNIS, W. D., Professor of Mechanical Engineering, Polytechnic Institute of Brooklyn, Brooklyn, N. Y. 1907
ENO, F. H., Professor of Municipal Engineering, Ohio State University, Columbus, O. 1907
ESTY, WILLIAM, Professor of Electrical Engineering, Lehigh University, South Bethlehem, Pa. 1898
EVANS, F. H., Assistant Professor of Manual Arts and Principal of Vocational School, Bradley Polytechnic Institute, Peoria, Ill. 1907
EVANS, H. B., Professor of Mathematics, University of Pennsylvania, Philadelphia, Pa. 1908
EVANS, H. S., Professor of Electrical Engineering, University of Colorado, Boulder, Colo. 1905

EVINGER, M. I., Associate Professor of Civil Engineering, Iowa State College, Ames, Ia. 1909
EWING, D. D., Assistant Professor of Electrical Engineering, Purdue University, W. LaFayette, Ind. 1910
EYRE, T. T., Assistant Professor of Mechanical Engineering, Purdue University, LaFayette, Ind. 1909
FAIG, J. T., Professor of Mechanical Engineering, University of Cincinnati, Cincinnati, O. 1899
FARNHAM, C. S., Assistant Professor of Civil Engineering, Yale University, New Haven, Conn. 1908
FARWELL, S. P., Chief, Service Department, State Public Utilities Commission of Illinois, Springfield, Ill. 1911
FAWKES, G. W. H., Instructor in Wood Working, University of Pennsylvania, Philadelphia, Pa. 1912
FELGAR, JAS. H., Dean of the College of Engineering, University of Oklahoma, Norman, Okla. 1912
FERGUSON, O. J., Head Professor of Electrical Engineering, University of Nebraska, Lincoln, Nebr. 1908
FERMIER, E. J., Professor of Mechanical Engineering, Texas A. and M. College, College Station, Texas 1903
FERNALD, R. H., Whitney Professor of Dynamical Engineering, University of Pennsylvania, Philadelphia, Pa. 1899
FERRIS, C. E., Professor of Mechanical Engineering and Dean of Engineering, University of Tennessee, Knoxville, Tenn. 1913
FESSENDEN, E. A., Associate Professor of Mechanical Engineering, University of Missouri, Columbia, Mo. 1912
FINCH, F. R., Assistant Professor of Descriptive Geometry and Drawing, University of Michigan, Ann Arbor, Mich. 1913
FINE, H. B., Professor of Mathematics and Dean of the Departments of Science, Princeton University, Princeton, N. J. 1909
FISH, E. H., New England Associate Editor, *American Machinist*, Worcester, Mass. 1912
FISH, F. A., Professor of Electrical Engineering, Iowa State College, Ames, Ia. 1905
FISHER, GEO. H., Manager and Editor, International Textbook Company, Scranton, Pa. 1911
FISHER, JAMES, Professor of Mathematics and Physics, Michigan College of Mines, Houghton, Mich. 1899
FISHER, R. T., Chairman of the School of Forestry, Harvard University, Cambridge, Mass. 1910
FISK, IRA W., Associate in Electrical Engineering, University of Illinois, Urbana, Ill. 1914
FISK, WILBUR C., President, Hudson & Manhattan R. R., (Hudson River Tunnels), 30 Church St., New York, N. Y. 1914

FITTERER, J. C., Professor of Civil and Irrigation Engineering, University of Wyoming, Laramie, Wyo. 1912

FITZGERALD, DESMOND, Consulting Engineer, 410 Washington St., Brookline, Mass. 1911

FLATHER, J. J., Professor of Mechanical Engineering, University of Minnesota, Minneapolis, Minn. 1893

FLEMING, V. R., Associate in Theoretical and Applied Mechanics, University of Illinois, Urbana, Ill. 1909

FLETCHER, A. B., Highway Engineer, Dept. of Engineering, State of California, Sacramento, Calif. 1913

FLETCHER, ROBERT, Professor of Civil Engineering, Director of Thayer School of Civil Engineering, Dartmouth College, Hanover, N. H. 1894

FLOWERS, A. E., Professor of Electrical Engineering, Ohio State University, Columbus, O. 1910

FOCKE, T. M., Kerr Professor of Mathematics, Case School of Applied Science, Cleveland, O. 1907

FOGG, R. J., Associate Professor of Civil Engineering, Lehigh University, South Bethlehem, Pa. 1910

FOLK, JOHN F., Instructor in Mechanics and Shop Work, Louisiana Industrial Institute, Ruston, La. 1914

FOOTE, F. S., JR., Associate Professor of Railroad Engineering, University of California, Berkeley, Calif. 1910

FORAKER, F. A., Instructor in Mathematics, University of Pittsburgh, Pittsburgh, Pa. 1914

FORD, ARTHUR H., Professor of Electrical Engineering, State University of Iowa, Iowa City, Ia. 1903

FORD, H. C., Associate Professor of Civil Engineering, Iowa State College, Ames, Ia. 1907

FOSS, F. E., Professor of Civil Engineering, Cooper Union, New York, N. Y. 1893

FOSS, MARTIN M., Secretary, McGraw-Hill Book Co., 239 W. 39th St., New York, N. Y. 1909

FOSTER, E. S., with the Packard Electric Co., Warren, Ohio 1911

FOULK, C. W., Professor of Analytical Chemistry, The Ohio State University, Columbus, O. 1913

FRANKFORTER, G. B., Professor of Chemistry and Dean of the School of Chemistry, University of Minnesota, Minneapolis, Minn. 1897

FRANKLIN, W. S., Professor of Physics, Lehigh University, South Bethlehem, Pa. 1900

FRARY, H. D., Instructor in Mathematics, University of Iowa, Iowa City, Ia. 1908

FRAZER, JOHN, Dean of the Towne Scientific School and Assistant Professor of Chemistry, University of Pennsylvania, Philadelphia, Pa. 1914

FRAZIER, F. F., Instructor in Civil Engineering, Kansas State Agricultural College, Manhattan, Kans. 1912

FREAR, J. B., Assistant Supt., Park Mfg. Co., Merriam Park, St. Paul, Minn. 1911

FREEDMAN, W. H., Professor of Electrical Engineering, University of Vermont, Burlington, Vt. 1902

FREEMAN, E. H., Professor of Electrical Engineering, Armour Institute of Technology, Chicago, Ill. 1909

FREEMAN, P. J., Instructor in Applied Mechanics, Kansas State Agricultural College, Manhattan, Kans. 1914

FREEMAN, W. EDWIN, Professor of Electrical Engineering, State University of Kentucky, Lexington, Ky. 1911

FRENCH, A. W., Professor of Civil Engineering, Worcester Polytechnic Institute, Worcester, Mass. 1900

FRENCH, THOS. E., Professor of Engineering Drawing, Ohio State University, Columbus, O. 1899

FRENCH, R. W., Instructor in Drawing, University of Minnesota, Minneapolis, Minn. 1915

FRINK, F. G., Professor of Engineering, Extension Division, University of Oregon, Eugene, Ore. 1902

FROST, A. E., Professor of Mathematics and Registrar, University of Pittsburgh, Pittsburgh, Pa. 1908

FROST, HARWOOD, President, Brown Portable Elevator Co., Room 1136, 10 LaSalle St., Chicago, Ill. 1907

FRY, H. P., Assistant Professor of Mechanical Drawing, University of Pennsylvania, Philadelphia, Pa. 1914

FRY, LAWFORD H., Superintendent of Product, Standard Steel Works Co., Burnham, Pa. 1911

FULLER, A. H., Professor of Civil Engineering and Dean College of Engineering, University of Washington, Seattle, Wash. 1901

FULLER, C. E., Professor of Theoretical and Applied Mechanics, Massachusetts Institute of Technology, Boston, Mass. 1907

FULTON, WM. L., Assistant Professor of Mathematics and Civil Engineering, University of Vermont, Burlington, Vt. 1912

FURMAN, FRANKLIN DER., Professor of Mechanism and Machine Design, Stevens Institute of Technology, Hoboken, N. J. 1907

GABRIEL, G. A., Professor of Chemical Engineering, Iowa State College, Ames, Ia. 1912

GANZ, ALBERT F., Professor of Electrical Engineering, Stevens Institute of Technology, Hoboken, N. J. 1903

GARMAN, H. O., Chief Engineer of the Indiana Public Utilities Commission, 2062 N. Meridian St., Indianapolis, Ind. 1907

GARRETT, L. E., Associate Professor of Mathematics, University of Missouri, School of Mines and Metallurgy, Rolla, Mo. 1910

GARVER, N. B., Associate in Civil Engineering, University of Illinois, Urbana, Ill. 1910

GARVER, J. D., Assistant Professor of Mechanical Engineering, University of Kansas, Lawrence, Kans. 1915

GATES, A. O., Sales Engineer, Dodge Sales & Engineering Co., Mishawaka, Ind. 1914

GAVETT, G. I., Assistant Professor of Mathematics, University of Washington, Seattle, Wash. 1907

GAY, R. W., Professor of Civil Engineering, Mississippi A. and M. College, Agricultural College, Miss. 1907

GEE, E. C., In Charge Department of Agricultural Engineering, Texas A. & M. College, College Station, Tex. 1914

GEHRING, H. A., Professor of Civil Engineering, Trinity College, Hartford, Conn. 1907

GEORGE, R. D., Professor of Geology and State Geologist of Colorado, University of Colorado, Boulder, Colo. 1914

GEORGE, S. G., Assistant Professor of Civil Engineering, Cornell University, Ithaca, N. Y. 1914

GIBSON, A. J., Professor of Engineering, University of Queensland, Brisbane, Queensland, Australia 1910

GIBSON, J. L., Professor of Mathematics, University of Utah, Salt Lake City, Utah 1911

GIESECKE, F. E., Professor of Architecture, University of Texas, Austin, Tex. 1893

GILBRETH, F. B., President, F. B. Gilbreth, Inc., 77 Brown St., Providence, R. I. 1911

GILCHRIST, J. F., Vice President, Commonwealth Edison Co., Chicago, Ill. 1911

GILLESPIE, PETER, Associate Professor of Applied Mechanics, University of Toronto, Toronto, Ontario 1905

GILLETTE, H. P., Editor in Chief, *Engineering & Contracting*, 608 S. Dearborn St., Chicago, Ill. 1905

GILMORE, L. H., Professor of Physics, Throop College of Technology, Pasadena, Calif. 1912

GLADSON, W. N., Vice President, Dean, School of Engineering, Professor of Electrical Engineering, University of Arkansas, Fayetteville, Ark. 1903

GLEASON, W. A., Instructor in Civil Engineering, University of Washington, Seattle, Wash. 1913

GODDARD, A. L., Supt. of Shops and Assistant Professor of Mechanical Practice, University of Wisconsin, Madison, Wis. 1912

GODDARD, R. W., Professor of Electrical Engineering, New Mexico College of A. & M. Arts, State College, N. Mex. 1915

GODFREY, HOLLIS, President, Drexel Institute, Philadelphia, Pa..... 1913

GOETZE, F. A., Dean, Schools of Mines, Engineering and Chemistry, Columbia University, New York, N. Y. 1906

GOLDINGHAM, A. H., Sales Engineer, De la Vergne Machine Co., New York, N. Y. 1911

GOLDSMITH, G., Professor of Architecture, University of Kansas, Lawrence, Kans. 1915

GOODENOUGH, G. A., Professor of Thermodynamics, University of Illinois, Urbana, Ill. 1900

GORROW, EDW. M., Field Organizer and Assistant, University of Wisconsin, Madison, Wis. 1914

GOSS, W. F. M., Dean of the College of Engineering and Director of the Engineering Experiment Station, University of Illinois, Urbana, Ill. 1893

GOULDING, HERBERT J., Professor of Descriptive Geometry and Drawing, University of Michigan, Ann Arbor, Mich. 1914

GRAHAM, WM. P., Professor of Electrical Engineering and Dean of the College of Applied Science, Syracuse University, Syracuse, N. Y. 1912

GRAM, L. M., Professor of Structural Engineering, University of Michigan, Ann Arbor, Mich. 1913

GRANT, E. D., Assistant Professor of Mathematics and Physics, Michigan College of Mines, Houghton, Mich. 1905

GREEN, CHAS. W., Assistant Professor of Electrical Engineering, Massachusetts Institute of Technology, Boston, Mass. 1912

GREENE, A. M., JR., Professor of Mechanical Engineering, Rensselaer Polytechnic Institute, Troy, N. Y. 1903

GREENOUGH, MAURICE B., Instructor in Civil Engineering, Case School of Applied Science, Cleveland, Ohio..... 1912

GREGORY, W. B., Professor of Experimental Engineering, Tulane University; Irrigation Engineer, U. S. Department of Agriculture, New Orleans, La. 1907

GREINER, J. E., Consulting Engineer, Fidelity Bldg., Baltimore, Md. 1911

GREMPLE, CHAS. W., Mechanical Engineer, 125 Fifth Ave., New York, N. Y. 1911

GREVE, F. W., JR., Instructor in Hydraulic Engineering, Purdue University, LaFayette, Ind. 1912

GRIMM, C. R., Standish Arms, 169 Columbia Heights, Brooklyn, N. Y. 1911

GROAT, B. F., Hydraulic Engineer, 2400 Oliver Bldg., Pittsburgh, Pa. 1899
GRONDAHL, L. O., Instructor in Physics, Carnegie Institute of Technology, Pittsburgh, Pa. 1915
GROVER, N. C., 1330 F St., N. W., Washington, D. C. 1894
GRUMBEIN, J. B., Associate Professor of Power and Experimental Engineering, West Virginia University, Morgantown, W. Va. 1912
GUMMERE, H. V., Director of Evening Courses, Drexel Institute, Philadelphia, Pa. 1914
GUNTHER, CHAS. P., Professor of Mathematics, Stevens Institute of Technology, Hoboken, N. J. 1907
GUSTAFSON, LEWIS, Superintendent, The David Ranken, Jr. School of Mechanical Trades, St. Louis, Mo. 1912
GUTHE, K. E., Professor of Physics and Dean of the Graduate Department, University of Michigan, Ann Arbor, Mich. 1914
HAGERTY, C. T., Professor of Mathematics and Astronomy, New Mexico College of A. & M. Arts, State College, New Mexico.. 1911
HAIGLER, CHAS. E., Professor of Mathematics, Wentworth Institute, Boston, Mass. 1912
HALL, JAMES A., Instructor in Mechanical Engineering, Brown University, Providence, R. I. 1914
HALL, P. R., Instructor in Iron Working, University of Pennsylvania, Philadelphia, Pa. 1912
HALLSTED, J. C., Engineer, Robert W. Hunt Co., Chicago, Ill. 1910
HALSEY, F. A., Editor Emeritus, *American Machinist*, 505 Pearl St., New York, N. Y. 1907
HAM, WM. R., Professor of Physics, Pennsylvania State College, State College, Pa. 1914
HAMERSCHLAG, A. A., Director, Carnegie Institute of Technology, Pittsburgh, Pa. 1903
HAMILTON, GEO. A., 532 Morris Ave., Elizabeth, N. J. 1911
HAMILTON, J. McC., President, Montana State College of A. & M. Arts, Bozeman, Mont. 1912
HAMILTON, J. O., Professor of Physics, Kansas State Agricultural College, Manhattan, Kans. 1910
HAMILTON, EDW. P., % Editorial Dept., John Wiley & Sons., Inc., 432 Fourth Ave., New York, N. Y. 1914
HAMLIN, HANNIBAL L., Division Head, Boston Industrial School for Boys, Boston, Mass. 1912
HANCOCK, CHAS., Associate Professor of Mechanical Engineering, University of Virginia, University, Va. 1915
HANDFORTH, C. H., W. L. Dickinson High School, Jersey City, N. J. 1912
HARDING, C. F., Professor of Electrical Engineering and Director of the Electrical Laboratories, Purdue University, LaFayette, Ind. 1908

HARING, ALEXANDER, Professor of Bridge and Railway Engineering, New York University, New York, N. Y. 1907
HARPER, A. C., Instructor in Engineering Drawing, Ohio State University, Columbus, O. 1911
HARPER, C. H., Instructor in Drawing and Mathematics, Chestnut Hill Academy, Chestnut Hill, Philadelphia, Pa. 1909
HARRINGTON, J. L., Consulting Engineer, Harrington, Howard & Ash, Kansas City, Mo. 1903
HARRIS, C. L., Instructor in Drawing and Descriptive Geometry, The Pennsylvania State College, State College, Pa. 1914
HARRIS, F. C., Instructor in Architecture and Drawing, Kansas State Agricultural College, Manhattan, Kans. 1910
HARRIS, L. H., Associate Professor of Electrical Engineering, University of Pittsburgh, Pittsburgh, Pa. 1912
HARRIS, WALTER B., Professor of Geodesy, Princeton University, Princeton, N. J. 1914
HARTER, G. A., Professor of Mathematics and Physics, Delaware College, Newark, Del. 1905
HARTMANN, F. M., Professor of Electrical and Mechanical Engineering, Cooper Union, New York, N. Y. 1908
HASEMAN, CHARLES, Professor of Mathematics and Mechanics, University of Nevada, Reno, Nev. 1914
HASKELL, E. E., Director of the College of Civil Engineering, Cornell University, Ithaca, N. Y. 1907
HASKELL, F. E., Head of the Electrical Engineering Dept., Mechanics Institute, Rochester, N. Y. 1914
HASKELL, M. W., Professor of Mathematics, University of California, Berkeley, Cal. 1910
HASKINS, C. N., Assistant Professor of Mathematics, Dartmouth College, Hanover, N. H. 1909
HASTINGS, H. B., Professor of Surveying and Drawing, Reed College, Portland, Ore. 1908
HATJIDAKIS, GEORGE, Piraeus, Greece 1913
HATT, W. K., Professor of Civil Engineering and Director of the Materials Testing Laboratory, Purdue University LaFayette, Ind. 1895
HAULTAIN, H. E. T., Professor of Mining Engineering, University of Toronto, Toronto, Canada 1911
HAUSMANN, ERICH, Assistant Professor of Physics and Electrical Engineering, Polytechnic Institute of Brooklyn, Brooklyn, N. Y. 1914
HAVENS, WM. W., Civil Engineer, 2453 Valentine Ave., New York, N. Y. 1914
HAVILAND, EDWIN, With the Seattle Lighting Co., Seattle, Wash.. 1902

HAWES, J. H., Junior Master, Dorchester High School, Dorchester Center, Mass. 1900
HAWLEY, J. B., Consulting Engineer, Hoxie Bldg., Ft. Worth, Tex. 1911
HAWLEY, R. S., Professor and Head of Mechanical Engineering, Colorado School of Mines, Golden, Colo. 1915
HAYFORD, J. F., Director of the College of Engineering, Northwestern University, Evanston, Ill. 1905
HAYNES, A. E., Retired Professor of Engineering Mathematics, University of Minnesota, Minneapolis, Minn. 1895
HAYWARD, H. W., Associate Professor of Applied Mechanics, Massachusetts Institute of Technology, Boston, Mass. 1904
HAZELTINE, L. A., Assistant Professor of Electrical Engineering, Stevens Institute of Technology, Hoboken, N. J. 1910
HECK, ROBERT C. H., Professor of Mechanical Engineering, Rutgers College, New Brunswick, N. J. 1907
HEDRICK, E. R., Professor of Mathematics, University of Missouri, Columbia, Mo. 1910
HEDRICK, I. G., Consulting Engineer, 1118 McGee St., Kansas City, Mo. 1903
HEDRICK, WM. A., Head of the Department of Physics of the High and Manual Training School, McKinley Manual Training Schools, Washington, D. C. 1913
HEHRE, F. W., Instructor in Electrical Engineering, Columbia University, New York, N. Y. 1913
HELMAN, M. P., Instructor in Mechanical Engineering, The Pennsylvania State College, State College, Pa. 1914
HENDERER, W. O., President, The Osborn Engineering Co., 740 Engineers Bldg., Cleveland, O. 1910
HENDERSON, J. M., President of Board of Trustees, The Case School of Applied Science, Cleveland, O. 1914
HENLEY, W. W., Professor of Mechanic Arts, University of Arizona, Tucson, Ariz. 1907
HENSHALL, P. P., Instructor in Machine Shop, Pennsylvania State College, State College, Pa. 1915
HERGET, A. M., Professor of Drawing and Mechanic Arts, Louisiana State University, Baton Rouge, La. 1903
HERING, RUDOLPH, Hydraulic and Sanitary Consulting Engineer, 170 Broadway, New York, N. Y. 1911
HERSCHEL, W. H., Assistant Physicist, Bureau of Standards, Washington, D. C. 1911
HERTY, C. H., Professor of Chemistry, University of North Carolina, Chapel Hill, N. C. 1912
HESSE, G. E., Assistant Professor of English, Iowa State College, Ames, Ia. 1914

HEUTER, R. R., Inspector, Associated Factory Mutual Fire Insurance Cos., 31 Milk St., Room 510, Boston, Mass. 1912
HEWERDINE, T. S., Civil Engineer, Olivia, Minn. 1907
HIBBARD, H. WADE, Professor of Mechanical Engineering, University of Missouri, Columbia, Mo. 1896
HICKERSON, T. F., Associate Professor of Civil Engineering, University of North Carolina, Chapel Hill, N. C. 1914
HIGBEE, F. G., Professor and Head of the Department of Descriptive Geometry and Drawing, State University of Iowa, Iowa City, Ia. 1906
HIGBIE, H. H., Professor of Electrical Engineering, University of Michigan, Ann Arbor, Mich. 1908
HIGGINS, CHAS. H., Consulting Engineer; Secretary Princeton Engineering Association, 30 Church St., New York, N. Y. 1912
HILL, ARTHUR E., Professor of Chemistry, New York University, New York, N. Y. 1912
HILL, J. E., Professor of Civil Engineering, Brown University, Providence, R. I. 1894
HILL, WM. W., Professor of Electrical Engineering, Alabama Polytechnic Institute, Auburn, Ala. 1912
HILLEBRAND, W. A., 345 Kellog Ave., Palo Alto, Calif. 1910
HIROI, ISAMI, Professor of Civil Engineering, Tokyo Imperial University, College of Engineering, Tokyo, Japan 1910
HITCHCOCK, F. A., Instructor in Civil Engineering, Robert College, Constantinople, Turkey 1913
HITCHCOCK, GEO. G., Professor of Physics, Pomona College, Claremont, Calif. 1911
HITCHCOCK, G. P., Vice-Chairman of Faculty and Assistant to the Secretary, Pratt Institute, Brooklyn, N. Y. 1914
HIXON, C. R., Instructor in Mechanical Engineering, Alabama Polytechnic Institute, Auburn, Ala 1910
HOAD, W. C., Professor of Sanitary Engineering, University of Michigan, Ann Arbor, Mich. 1907
HOBART, H. M., Consulting Engineer, General Electric Co., Schenectady, N. Y. 1912
HODGKINS, H. L., Dean of the College of Engineering and Mechanic Arts, George Washington University, Washington, D. C. 1908
HOEFER, E. G., Assistant Professor of Steam and Gas Engineering, University of Wisconsin, Madison, Wis. 1910
HOERNING, CARLOS, Professor of Mechanical Engineering, Universidad de Chile, Santiago, Chile. 1912
HOEXTER, S. J., Instructor, Dept. of Engineering, University of Michigan, Ann Arbor, Mich. 1914

HOFMAN, H. O., Professor of Metallurgy, Massachusetts Institute of Technology, Boston, Mass. 1894

HOFFMAN, A. H., Associate Professor of Physics, Iowa State College, Ames, Ia. 1907

HOFFMAN, J. D., Professor of Mechanical Engineering and Practical Mechanics, and Head of Department, University of Nebraska, Lincoln, Nebr. 1907

HOGG, WM. T., Instructor in Civil Engineering, The Tulane University, New Orleans, La. 1914

HOLBROOK, E. A., Assistant Professor of Mining Engineering, University of Illinois, Urbana, Ill. 1912

HOLDEN, C. A., Professor of Civil Engineering, Thayer School of Civil Engineering, Dartmouth College, Hanover, N. H. 1901

HOLDER, F. J., Professor of Mathematics, University of Pittsburgh, Pittsburgh, Pa. 1912

HOLLIS, I. N., President, Worcester Polytechnic Institute, Worcester, Mass. 1894

HOLLISTER, V. L., Associate Professor of Electrical Engineering, University of Nebraska, Lincoln, Nebr. 1911

HOLMAN, W. F., Assistant Professor of Mathematics and Mechanics, University of Minnesota, Minneapolis, Minn. 1912

HOOD, GEO. J., Associate Professor of Mechanical Drawing, University of Kansas, Lawrence, Kans. 1914

HOOD, O. P., Chief Mechanical Engineer, U. S. Bureau of Mines, 40th & Butler Sts., Pittsburgh, Pa. 1893

HOOPER, E. G., Assistant Engineer, Dept. Water Supply, Gas and Electricity, 3198 Webster Ave., New York, N. Y. 1909

HOOPER, W. L., Professor of Electrical Engineering, Tufts College, Tufts College, Mass. 1907

HOSKINS, L. M., Professor of Applied Mathematics, 365 Lincoln Ave., Palo Alto, Calif. 1893

HOSMER, GEO. L., Assistant Professor of Civil Engineering, Massachusetts Institute of Technology, Boston, Mass. 1914

HOTCHKISS, HOMER J., 5044 Cedar Ave., Philadelphia, Pa. 1914

HOUGHTON, C. E., Professor of Mechanics, New York University, New York, N. Y. 1908

HOUSE, E. B., Professor of Civil and Irrigation Engineering, Colorado State Agricultural College, Ft. Collins, Colo. 1913

HOUSTON, HALE, Professor of Civil Engineering, Clemson A. & M. College, Clemson College, S. C. 1914

HOWARD, J. W., Assistant Professor of Topographical Engineering, Massachusetts Institute of Technology, Boston, Mass. 1907

HOWE, C. D., Chief Engineer, Grain Commission for Canada, Fort William, Ontario, Canada 1912

LIST OF MEMBERS.

HOWE, C. S., President of the Case School of Applied Science, Cleveland, O. 1902

HOWE, M. A., Professor of Civil Engineering, Rose Polytechnic Institute, Terre Haute, Ind. 1894

HOWER, H. S., Associate Professor of Physics, Carnegie Institute of Technology, Pittsburgh, Pa 1914

HOXTON, L. G., Associate Professor, University of Virginia, University, Va. 1915

HUBBARD, A. K., 1145 Oregon Ave., Steubenville, O. 1907

HUBBARD, L. L., Geologist, Houghton, Mich. 1911

HUDNUT, JOSEPH, Professor of Architecture, Alabama Polytechnic Institute, Auburn, Ala. 1913

HUDSON, C. W., Professor of Civil Engineering, Polytechnic Institute of Brooklyn; Consulting Engineering, 45 Broadway, New York, N. Y. 1909

HUGHES, H. J., Professor of Civil Engineering, Harvard University, Cambridge, Mass. 1907

HUME, ALFRED, Vice-Chancellor and Professor of Mathematics, University of Mississippi, University, Miss. 1894

HUMPHREYS, A. C., President, Stevens Institute of Technology, Hoboken, N. J. 1903

HUMPHREYS, D. C., Dean of the School of Applied Science and Professor of Civil Engineering, Washington and Lee University, Lexington, Va. 1893

HUND, AUGUST, Research Engineer, Research Laboratory of General Electric Co., Schenectady, N. Y. 1914

HUNT, CHAS. WARREN, Secretary, the American Society of Civil Engineers, 220 W. 57th St., New York, N. Y. 1911

HUNT, J. H., Dayton Engineering Laboratories Co., Dayton, Ohio.. 1908

HUNT, ROBERT W., Senior Member of Robert Hunt & Co., Chicago, Ill. 1913

HUNTER, J. A., Professor of Mechanical Engineering, University of Colorado, Boulder, Colo. 1904

HUNTINGTON, E. V., Assistant Professor of Mathematics, Harvard University, Cambridge, Mass. 1906

HUNTINGTON, W. C., Assistant Professor of Civil Engineering, University of Colorado, Boulder, Colo. 1914

HUTCHINS, H. B., President, University of Michigan, Ann Arbor, Mich. 1913

HUTCHINS, R. E., Instructor in Mechanics and Hydraulics, State University of Iowa, Iowa City, Ia. 1912

HUTTON, S. E., Consulting Electrical and Mechanical Engineer, Moscow, Ida. 1907

HYDE, A. L., Associate Professor of Bridge Engineering, University of Missouri, Columbia, Mo. 1904

HYDE, E. P., Director, Nela Research Laboratory, National Lamp Works of General Electric Co., Nela Park, Cleveland, O. 1911

INGRAM, E. L., Professor of Railroad Engineering and Geodesy, University of Pennsylvania, Philadelphia, Pa. 1908

IVES, F. W., Instructor in Agricultural Engineering, The Ohio State University, Columbus, O. 1910

IVES, H. C., Professor of Railroad Engineering, Worcester Polytechnic Institute, Worcester, Mass. 1901

IYER, R. P., Supervisor, Public Works Department, Teruverambur P. O., Trechwofoltz District, Deccan, India..... 1910

JABLOW, CHARLES, Associate Professor of Mechanical Engineering, Oklahoma A. & M. College, Stillwater, Okla. 1910

JACKSON, DUGALD C., Professor of Electrical Engineering, Massachusetts Institute of Technology, Boston, Mass. 1893

JACKSON, JOHN PRICE, Dean of School of Engineering, Pennsylvania State College, State College, Pa.; Commissioner, Commonwealth of Pennsylvania, Dept. of Labor and Industry, Harrisburg, Pa. 1894

JACOBUS, D. S., Advisory Engineer, The Babcock & Wilcox Co., and Special Lecturer in Experimental Engineering, Stevens Institute of Technology, Hoboken, N. J. 1893

JACOBY, H. S., Professor of Bridge Engineering, Cornell University, Ithaca, N. Y. 1894

JAMES, J. H., Professor of Chemical Engineering, Carnegie Institute of Technology, Pittsburgh, Pa. 1910

JAMES, R. L., Assistant Professor of Engineering Drawing, University of North Carolina, Chapel Hill, N. C. 1914

JAMESON, J. M., Vice President, Girard College, Philadelphia, Pa. 1903

JENKINS, A. LEWIS, Associate Professor of Mechanical Engineering, University of Cincinnati, Cincinnati, O..... 1907

JENKINS, D. R., Assistant Professor of Electrical Engineering, University of Colorado, Boulder, Colo. 1912

JENSON, JOSEPH, Consulting Engineer, 208 Judge Bldg., Salt Lake City, Utah 1903

JEWETT, A. C., Manager of Engineering, Bird & Son, East Walpole, Mass. 1907

JEWETT, F. B., Assistant Chief Engineer, Western Electric Co., 463 West St., New York, N. Y. 1914

JOBSON, A. J., Engineer, Utah Power & Light Co., 1445 Roosevelt Ave., Salt Lake City, Utah 1910

JOHNSON, A. R., Assistant Professor of Mathematics and Graphics, Rutgers College, New Brunswick, N. J. 1909

JOHNSON, C. A., Associate Professor of Electrical Engineering, University of Kansas, Lawrence, Kans. 1915

JOHNSON, E. A., Head of the Foundry Dept., Wentworth Institute, Boston, Mass. 1913

JOHNSON, L. J., Professor of Civil Engineering, Harvard University, Cambridge, Mass. 1898

JOHNSON, PHELPS, President, Dominion Bridge Co.; President, St. Lawrence Bridge Co., Montreal, Canada..... 1910

JOHNSON, WM. F., Instructor in Electrical Engineering, University of Pennsylvania, Philadelphia, Pa..... 1913

JOHNSTON, C. T., Professor of Geodesy and Surveying, University of Michigan, Ann Arbor, Mich. 1913

JOHNSTON, W. A., Professor of Theoretical and Applied Mechanics, Massachusetts Institute of Technology, Boston, Mass..... 1907

JONES, BASSETT, JR., Consulting Engineer, 101 Park Ave., New York, N. Y. 1907

JONES, C. R., Dean of the College of Engineering and Professor of Steam and Experimental Engineering, West Virginia University, Morgantown, W. Va. 1895

JONES, F. E., Assistant Professor of Mechanic Arts, University of Kansas, Lawrence, Kans. 1915

JONES, F. R., Mechanical and Electrical Engineer, 1702 Melrose Place, Knoxville, Tenn. 1893

JONES, G. R., Instructor in Civil Engineering, Johns Hopkins University, Baltimore, Md. 1914

JUDD, HORACE, Associate Professor of Experimental Engineering, Ohio State University, Columbus, O. 1907

KARAPETOFF, VLADIMIR, Professor of Electrical Engineering, Cornell University, Ithaca, N. Y. 1909

KAULFUSS, J. E., Associate Professor Civil Engineering, University of Maine, Orono, Me. 1910

KAVANAUGH, W. H., Professor of Experimental Engineering, University of Minnesota, Minneapolis, Minn..... 1902

KAY, EDGAR B., Consulting Engineer, Tuscaloosa, Ala. 1898

KEELY, R. R., Industrial Engineer, 1702 Mt. Vernon St., Philadelphia, Pa. 1910

KEGERREIS, ROY, Instructor in Electrical Engineering, University of Pennsylvania, Philadelphia, Pa. 1913

KELLER, A. R., McKinley St. & Lanihuli Drive, Honolulu, T. H. 1910

KELLER, R. B., Associate Professor of Railway Engineering, University of Illinois, Urbana, Ill. 1913

KELLER, S. S., Professor of Mathematics, Head of Mathematics Dept., Carnegie Institute of Technology, Pittsburgh, Pa. 1912

KELLEY, HOWARD G., Vice-President, Grand Trunk Railway System, Montreal, P. Q., Canada 1910

KELLOGG, E. W., Instructor in Electrical Engineering, University of Missouri, Columbia, Mo. 1913

KELSALL, G. A., Instructor in Electrical Engineering, Michigan Agricultural College, East Lansing, Mich. 1911

KENERSON, W. H., Professor of Mechanical Engineering, Brown University, Providence, R. I. 1903

KENISON, ERVIN, Associate Professor of Drawing and Descriptive Geometry, Massachusetts Institute of Technology, Boston, Mass. 1912

KENNEDY, F. L., Associate Professor of Engineering Drawing, Harvard University, Cambridge, Mass. 1904

KENNEDY, W. A., Testing Engineer, General Fire Extinguisher Company, 31 Forest St., Providence, R. I. 1910

KENT, J. M., Instructor in Steam and Electricity, Manual Training High School; President of the Henrici, Kent & Lowry Engineering Co., Kansas City, Mo. 1903

KENT, WILLIAM, Consulting Engineer, 64 Orange Road, Montclair, N. J. 1894

KEOWN, R. McA., Assistant Professor of Machine Design, University of Wisconsin, Madison, Wis. 1910

KERR, E. W., Professor of Mechanical Engineering, Louisiana State University, Baton Rouge, La. 1910

KERSHAW, W. H., Manager, Eastern Division, John Baker Jr. Co., New York, N. Y. 1913

KETCHUM, MILO S., Dean of the College of Engineering and Professor of Civil Engineering, University of Colorado, Boulder, Colo. 1903

KHACHADOORIAN, H. H., Civil Engineer, Cavitchi and Pagano, Quebec and Halifax; Instructor in Structural Engineering, University of Vermont, Burlington, Vt. 1915

KIDD, J. W., Professor of Engineering, Texas State School of Mines and Metallurgy, Fort Bliss, Tex. 1908

KING, CARL, Instructor in Materials of Construction, Wentworth Institute, Boston, Mass. 1912

KING, E. E., Professor of Railway Engineering, Iowa State College, Ames, Ia. 1908

KING, H. W., Professor of Hydraulic Engineering, University of Michigan, Ann Arbor, Mich. 1913

KING, R. S., Mechanical Engineering Department, University of Arizona, Tucson, Ariz. 1904

KINGSBURY, ALBERT, Consulting Engineer, 219 Stratford Ave., Pittsburgh, Pa. 1893

KINSEY, A. S., Supervising Instructor in Shop Practice, Stevens Institute of Technology, Hoboken, N. J. 1912

KINSLEY, CARL, Associate Professor of Physics, University of Chicago, Chicago, Ill. 1903

KIRBY, R. S., Professor of Civil Engineering, Pennsylvania College, Gettysburg, Pa. 1911

KIRCHNER, W. H., Professor of Drawing and Descriptive Geometry, University of Minnesota, Minneapolis, Minn. 1910

KLEIN, A. W., Associate Professor of Mechanical Engineering, Lehigh University, South Bethlehem, Pa. 1908

KNAPP, E. R., Professor of Descriptive Geometry and Mechanical Drawing, Stevens Institute of Technology, Hoboken, N. J. 1912

KNAPP, W. A., Assistant Professor of Structural Engineering, Purdue University, LaFayette, Ind. 1914

KNEALE, R. D., Associate Professor of Civil Engineering, Georgia School of Technology; Consulting Engineer, Fulton Co., Atlanta, Ga. 1912

KNIGHT, C. D., Assistant Professor of Experimental Electrical Engineering, Worcester Polytechnic Institute, Worcester, Mass. 1907

KNIGHT, W. A., Associate Professor of Machine Shop Practice, Ohio State University, Columbus, O. 1907

KNOCH, JULIUS J., Professor of Civil Engineering, University of Arkansas, Fayetteville, Ark. 1898

KNOWLTON, A. A., Associate Professor of Physics, University of Utah, Salt Lake City, Utah 1911

KNOWLES, MORRIS, Director, Department of Sanitary Engineering, University of Pittsburgh, Pittsburgh, Pa. 1914

KOCH, E. H., JR., Instructor in Mathematics, Pratt Institute, Brooklyn, N. Y. 1904

KOESTER, FRANK, Consulting Engineer, 50 Church St., Hudson Terminal Bldg., New York, N. Y. 1910

KONDO, SENTARO, Civil Engineer, No. 27 Tatsuokacho Hongo, Tokyo, Japan 1911

KONDO, TORAGORO, Chief of Technical Division, Home Department, Public Works Bureau, Tokyo, Japan (Life Member) 1911

KOSTALEK, J. A., Assistant Professor of Chemistry, University of Idaho, Moscow, Ida. 1913

KREWSON, R. H., Instructor in Iron Working, University of Pennsylvania, Philadelphia, Pa. 1912

KROTZER, FRED. W., Instructor in Electricity, Central Continuation School, Y. M. C. A., Milwaukee, Wis. 1915

KUNZE, E. J., Professor of Mechanical Engineering, in charge of Department, Oklahoma A. & M. College, Stillwater, Okla. 1907

LAGERGREN, J. T., Lecturer in Machine Design, University of Toronto, Toronto, Ont., Canada. 1912

LAMBERT, B. J., Professor of Structural Engineering, State University of Iowa, Iowa City, Ia. 1907

LAMBERT, P. A., Professor of Mathematics, Lehigh University, South Bethlehem, Pa. 1897

LAMBIE, J. S., Assistant Professor of Civil Engineering, University of Pittsburgh, Pittsburgh, Pa. 1914

LANDRETH, O. H., Professor of Civil Engineering, Union University; Consulting Engineer, Schenectady, N. Y. 1893

LANGSDORF, A. S., Dean of the Schools of Engineering and Architecture and Professor of Electrical Engineering, Washington University, St. Louis, Mo. 1903

LAPHAM, J. R., Instructor in Civil Engineering Pennsylvania State College, State College, Pa. 1912

LAPHAM, J. S., Instructor in Applied Mathematics, University of Virginia, University, Va. 1915

LARKIN, F. V., Assistant Professor of Mechanical Engineering, Lehigh University, South Bethlehem, Pa. 1914

LARSON, G. L., Professor of Mechanical Engineering, 204 N. Pinckney St., Madison, Wis. 1911

LAUER, H. H., with Midvale Steel Co., Philadelphia, Pa. 1913

LAWLEY, EDW. M., Instructor in Iron Working, University of Pennsylvania, Philadelphia, Pa. 1912

LAWRANCE, C. H., Instructor in Mechanics, Purdue University, La-Fayette, Ind. 1906

LAWRENCE, C. W., Professor of Civil Engineering, University of Southern California, Los Angeles, Cal. 1909

LAWRENCE, J. W., Professor of Mechanical Engineering, State Agricultural College of Colorado, Fort Collins, Colo. 1898

LAWRENCE, R. R., Associate Professor of Electrical Engineering, Massachusetts Institute of Technology, Boston, Mass. 1907

LAWRENCE, W. H., Professor of Architectural Engineering, Massachusetts Institute of Technology, Boston, Mass. 1907

LAWS, F. A., Professor of Electrical Engineering, Massachusetts Institute of Technology, Boston, Mass. 1909

LAWTON, E. E., Associate Professor of Electrical Engineering, Syracuse University, Syracuse, N. Y. 1910

LECONTE, J. N., Professor of Engineering Mechanics, University of California, Berkeley, Calif. 1913

LEETE, J. H., Dean, School of Applied Science, Carnegie Institute of Technology, Pittsburgh, Pa. 1907

LEKBERG, C. H., Assistant Professor of Mechanical Engineering, University of Maine, Orono, Me. 1912

LELAND, O. M., Assistant Professor of Astronomy and Geodesy, Cornell University, Ithaca, N. Y. 1908

LENDALL, H. N., Assistant Professor of Civil Engineering, Rutgers College, New Brunswick, N. J. 1912

LEONARD, L. R., Instructor in Electrical Engineering, University of Colorado, Boulder, Colo. 1914

LEPAGE, CLIFFORD B., Assistant Professor of Physics, Stevens Institute of Technology, Hoboken, N. J. 1908

LESTER, O. C., Professor of Physics, University of Colorado, Boulder, Colo. 1912

LETELLIER, L. S., Professor of Drawing, The Citadel, The Military College of South Carolina, Charleston, S. C. 1912

LEUTWILER, O. A., Assistant Professor of Machine Design, University of Illinois, Urbana, Ill. 1906

LEWIS, BROTHER HUBERT, Associate Professor of Engineering, Christian Brothers College, St. Louis, Mo. 1911

LEWIS, J. F., Electrical Engineer, 433 N. 41st St., Philadelphia, Pa. (Life Member) 1913

LEWIS, O. L., Tool Designer, Lyons-Atlas Co., Indianapolis, Ind. 1913

LIEB, J. W., JR., Vice-President, The New York Edison Co., 124 E. 15th St., New York, N. Y. 1911

LILLY, S. B., Assistant Professor of Civil Engineering, Swarthmore College, Swarthmore, Pa. 1913

LINCOLN, P. M., Head of the Electrical Engineering Dept., University of Pittsburgh; General Engineer, Westinghouse E. & M. Co., East Pittsburgh, Pa. 1911

LINDEMANN, C. A., Professor of Applied Mathematics, Bucknell University, Lewisburg, Pa. 1905

LINVILLE, C. P., with American Smelting & Refining Co., Perth Amboy, N. J. 1904

LITTLE, A. P., Associate Professor of Electrical Engineering, Oklahoma A. & M. College, Stillwater, Okla. 1914

LITTLE, C. N., Dean of the College of Engineering and Professor of Civil Engineering, University of Idaho, Moscow, Idaho.... 1907

LOCKWOOD, E. H., Assistant Professor of Mechanical Engineering, Yale University, New Haven, Conn. 1908

LODGE, W. L., Assistant Professor of Physics, Michigan Agricultural College, East Lansing, Mich. 1908

LONG, J. J., Instructor in Civil Engineering, University of Cincinnati, Cincinnati, O. 1911

LONGYEAR, J. M., ex-Member Board of Control, Michigan College of Mines, Marquette, Mich. 1905

LORING, F. C., Instructor in Electrical Engineering, Ford Co., Champaign, Ill. 1912

LORY, C. A., President, State Agricultural College of Colorado, Fort Collins, Colo. 1908

LOVE, A. C., Associate Professor of Civil Engineering, Texas A. & M. College, College Station, Texas 1900

LUBY, WM. A., Head of Dept. of Mathematics, Northeast High School, Kansas City, Mo. 1914

LUCKE, C. E., Professor of Mechanical Engineering and Head of Dept., Columbia University, New York, N. Y. 1906

LUDERITZ, JOAO, Engenheiro Chefo-Instituto Technico Professional, Porto Alegre, Brazil 1909

LUDY, L. V., Professor of Experimental Engineering, Purdue University, LaFayette, Ind. 1903

LUND, JACOB, Supt. Heat and Power Dept., Kansas State Agricultural College, Manhattan, Kans. 1910

LUNDGREN, LEONARD, District Engineer, Forest Service, Beck Bldg., Portland, Ore. 1907

LUTHER, H. B., Instructor in Civil Engineering, Massachusetts Institute of Technology, Boston, Mass. 1914

LYE, R. C., District Engineer, 29 Dupont St., Toronto, Canada..... 1915

LYLE, WM. T., Professor of Municipal Engineering, Lafayette College, Easton, Pa. 1914

LYMAN, RICHARD R., Professor of Civil Engineering, University of Utah; Vice-Chairman, State Road Commission; Civil and Consulting Engineer, 424 Vermont Bldg., Salt Lake City, Utah 1908

LYON, W. V., Instructor in Electrical Engineering, Massachusetts Institute of Technology, Boston, Mass. 1912

MCALISTER, E. H., Professor of Mechanics, University of Oregon, Eugene, Ore. 1911

MCALLISTER, A. S., Editor of *Electrical World*, 239 West 39th St., New York, N. Y.; Lecturer in Electrical Engineering, Pennsylvania State College, State College, Pa. 1911

MCCAFFERY, R. S., Professor of Metallurgy, University of Wisconsin, Madison, Wis. 1911

MCCANN, WM. R., Baskerville Apartments, Madison, Wis. 1912

MCCAUSTLAND, E. J., Dean, School of Engineering, and Director, Engineering Experiment Station, University of Missouri, Columbia, Mo. 1902

MCCANDLISS, L. C., Instructor in Civil Engineering, University of Pittsburgh, Pittsburgh, Pa. 1914

MCCLELLAND, E. H., Technology Librarian, Carnegie Library of Pittsburgh, Pittsburgh, Pa. 1912

MCCLELLAND, J. F., Professor of Mining Engineering, Yale University, New Haven, Conn. 1912

MCCLINTIC, H. H., Vice-President and General Manager, McClintic-Marshall Construction Co., Pittsburgh, Pa. 1910

McCormick, E. B., Mechanical Engineer, Office of Public Roads, U. S. Dept. of Agriculture, Washington, D. C. 1908
McCormick, S. B., Chancellor, University of Pittsburgh, Pittsburgh, Pa. 1914
McCullough, F. M., Assistant Professor of Materials, Carnegie Institute of Technology, Pittsburgh, Pa. 1910
McDaniel, A. B., Assistant Professor of Civil Engineering, University of Illinois, Urbana, Ill. 1907
McFarland, D. F., Assistant Professor of Applied Chemistry, College of Literature, Arts and Science, University of Illinois, Urbana, Ill. 1914
McGaw, F. M., Assistant Professor of Mathematics, Cornell College, Mt. Vernon, Iowa 1911
McGonigle, Chas., Pacific Coast Manager, Millikin Bros., Inc. (of New York, N. Y.), Humboldt Bank Bldg., San Francisco, Calif. 1910
McGowan, John, Associate Professor of Applied Mathematics, University of Toronto, Ont., Canada..... 1914
McKergow, C. M., Associate Professor of Mechanical Engineering, McGill University, Montreal, Canada. 1913
McKibben, F. P., Professor of Civil Engineering, Lehigh University, South Bethlehem, Pa. 1904
McMeen, S. G., President, Columbus Railway, Power & Light Co., 1001 Wyandotte Bldg., Columbus, O. 1911
McMillin, Emerson, Chairman, Board of Directors, American Light & Traction Co., and President of many Companies, Ramsey, N. J. (Life Member) 1911
McMurtray, H. D., Assistant Professor of Physics, Mississippi A. &. M. College, Agricultural College, Miss. 1914
McNair, F. W., President, Michigan College of Mines, Houghton, Mich. 1897
McNair, G. B., Instructor in Electrical Engineering, Kansas State Agricultural College, Manhattan, Kans. 1914
McNaugher, D. W., Partner, Robert W. Hunt & Co., Engineers, Pittsburgh, Pa. 1910
McNown, W. C., Associate Professor of Civil Engineering, University of Kansas, Lawrence, Kans. 1915
McRae, A. L., Professor of Physics, Missouri School of Mines, Rolla, Mo. 1907
MacCracken, J. H., President, Lafayette College, Easton, Pa.... 1913
Macdonald, S. L., Head of the Department of Mathematics, Colorado State Agricultural College, Ft. Collins, Colo..... 1914
Mack, J. G. D., Professor of Machine Design, University of Wisconsin, Madison, Wis. 1901

MacKay, H. M., Professor of Civil Engineering, McGill University, Montreal, Quebec, Canada 1914

Maclaurin, R. C., President, Massachusetts Institute of Technology, Boston, Mass. 1909

Maclin, E. S., Instructor in Mechanical Drawing and Descriptive Geometry, The University of Wisconsin, Madison, Wis. 1914

MacNaughton, Jas., General Manager, Calumet and Hecla Mines; Member Board of Control, Michigan College of Mines, Calumet, Mich. 1905

MacNutt, Barry, Associate Professor of Physics, Lehigh University, South Bethlehem, Pa. 1910

Macomber, G. S., Assistant Professor of Electrical Engineering, Cornell University, Ithaca, N. Y. 1904

Magnusson, C. E., Professor of Electrical Engineering, University of Washington, Seattle, Wash. 1907

Magruder, Wm. T., Professor of Mechanical Engineering, The Ohio State University, Columbus, O. 1893

Main, C. T., Consulting and Constructing Engineer, 14 Herrick St., Winchester, Mass. 1911

Malcolm, C. W., Associate Editor, *Engineering and Contracting*, 1233 Granville Ave., Chicago, Ill. 1907

Mallory, Francis, Professor of Physics and Electrical Engineering, Virginia Military Institute, Lexington, Va. 1912

Mann, C. R., The Carnegie Foundation for the Advancement of Teaching, 576 Fifth Ave., New York, N. Y. 1914

Mann, F. M., Professor of Architecture, University of Minnesota, Minneapolis, Minn. 1911

Marburg, Edgar, Professor of Civil Engineering, University of Pennsylvania, Philadelphia, Pa. 1894

Mark, Robert M., Civil Engineer, Barge Canal, Minetto, Oswego Co., N. Y. 1909

Marker, J. R., State Highway Commissioner, 707 Hartman Bldg., Columbus, O. 1913

Marks, L. S., Professor of Mechanical Engineering, Harvard University, and Massachusetts Institute of Technology, Cambridge, Mass. 1909

Marquis, F. W., Professor of Steam Engineering, Ohio State University, Columbus, Ohio 1910

Marr, Robt. A., Dean of the Engineering Department, Virginia Polytechnic Institute, Blacksburg, Va. 1912

Marsh, H. E., Professor of Physics, University of Redlands, Redlands, Calif. 1910

Marshall, W. C., Consulting Engineer, The Federal Sugar Refining Co., 91 Wall St., New York, N. Y. 1912

MARSTON, ANSON, Dean of the Division of Engineering and Director of the Engineering Experiment Station, and Professor of Civil Engineering, Iowa State College, Ames, Ia. 1894

MARTEL, R. R., Instructor, Mechanics Institute, Rochester, N. Y. .. 1915

MARTENIS, J. VAN S., Assistant Professor of Mechanical Engineering, University of Minnesota, Minneapolis, Minn. 1908

MARTIN, L. A., JR., Dean and Professor of Mechanics, Stevens Institute of Technology, Hoboken, N. J. 1907

MARTIN, T. C., Secretary, The National Electric Light Association, 29 West 39th St., New York, N. Y. 1909

MARTIN, W. H., Instructor in Mechanical Engineering, University of Minnesota, Minneapolis, Minn. 1913

MARVIN, HENRY H., Assistant Professor of Physics, Tufts College, Tufts College, Mass. 1914

MARX, C. D., Professor of Civil Engineering, Leland Stanford Junior University, Stanford University, Calif. 1893

MASON, A. J., Engineer, Chicago Railway Exchange, 5715 Woodlawn Ave., Chicago, Ill. 1912

MATHEWS, H. B., Professor of Physics, South Dakota State College of A. and M. Arts, Brookings, S. D. 1896

MATHEWSON, F. E., Director, Technical and Industrial Dept., Wm. L. Dickinson High School, Jersey City, N. J. 1913

MATHEWSON, JAS. S., Instructor in Engineering, Municipal University of Akron, Akron, O. 1914

MATTHEWS, ROBERTSON, Assistant Professor of Power Engineering, Cornell University, Ithaca, N. Y. 1910

MAURER, E. R., Professor of Mechanics, University of Wisconsin, Madison, Wis. 1897

MAY, CHAS. C., Instructor in Civil Engineering, University of Washington, Seattle, Wash. 1912

MEAD, D. W., Professor of Hydraulic and Sanitary Engineering, University of Wisconsin, Madison, Wis. 1908

MEASE, J. A., Associate Professor of Machine Design, Pennsylvania State College, State College, Pa. 1909

MEEKER, W. H., Professor of Mechanical Engineering, Iowa State College, Ames, Ia. 1903

MEES, C. L., President, Rose Polytechnic Institute, Terre Haute, Ind. 1894

MÉHELY, KÁLMÁN, Director of the Society of Hungarian Ironworks and Machinery Factories, Budapest, Hungary 1909

MEIKLEJOHN, ROBERT, Assistant Professor of Engineering Drawing, Ohio State University, Columbus, O. 1909

MELLER, H. B., Acting Dean, School of Mines, Professor of Mining, University of Pittsburgh, Pittsburgh, Pa. 1915

MENDENHALL, T. C., 329 N. Chestnut St., Ravenna, O. (Honorary Member) 1895

MERRILL, J. F., Director of the Utah State School of Mines; Professor of Physics and Electrical Engineering, University of Utah, Salt Lake City, Utah 1907

MERRIMAN, MANSFIELD, 1071 Madison Ave., New York, N. Y..... 1893

METCALF, LEONARD, of Metcalf and Eddy, Consulting Civil Engineers, 14 Beacon St., Boston, Mass..... 1910

MEYER, ADOLPH F., Associate Professor of Hydraulics, University of Minnesota; Consulting Engineer, Minneapolis, Minn. 1913

MEYERS, C. C., Professor of Coordination, University of Cincinnati, Cincinnati, Ohio 1914

MICKEY, CLARK E., Assistant Professor of Applied Mechanics and Machine Design, University of Nebraska, Lincoln, Nebr. 1912

MIGGETT, W. L., Professor of Shop Practice and Superintendent of the Engineering Shops, University of Michigan, Ann Arbor, Mich. 1902

MILLAR, A. V., Assistant Professor of Drawing, University of Wisconsin, Madison, Wis. 1914

MILLER, DAYTON C., Professor of Physics, Case School of Applied Science, Cleveland, O. 1907

MILLER, HUGH, Professor of Civil Engineering, Clarkson College of Technology, Potsdam, N. Y. 1909

MILLER, H. W., Assistant Dean, College of Engineering, and Assistant Professor of General Engineering Drawing, University of Illinois, Urbana, Ill. 1912

MILLER, N. C., Instructor in Mechanical Engineering, The Pennsylvania State College, State College, Pa. 1914

MILLER, W. A., Associate Professor of Railway Engineering, University of Missouri, Columbia, Mo. 1908

MISER, W. L., Instructor in Mathematics in College of Engineering, University of Minnesota, Minneapolis, Minn. 1914

MITCHAM, G. N., Professor of Civil Engineering, Alabama Polytechnic Institute, Auburn, Ala. 1906

MITCHELL, BRAINERD, JR., Associate Professor of Mechanical Engineering, University of Arkansas, Fayetteville, Ark. 1910

MITCHELL, LOUIS, Assistant Professor of Civil Engineering, Syracuse University, Syracuse, N. Y..... 1913

MODJESKI, RALPH, Consulting Engineer, 101 Park Ave., New York, N. Y. 1908

MOLBY, F. A., Assistant Professor of Physics, Indiana University, Bloomington, Ind. 1910

MOLITOR, D. A., Designing Engineer for The Toronto Harbor Commissioner, 50 Bay St., Toronto, Ont., Canada 1907
MONROE, W. K., Manager, Engineering Dept., The Brown Hoisting Machinery Co., Cleveland, O. 1911
MOODY, L. F., Professor of Hydraulics, Rensselaer Polytechnic Institute, Troy, N. Y.; Consulting Engineer, Hydraulic Dept., I. P. Morris Co., Philadelphia, Pa. 1912
MOOMAW, DALTON, Road Engineer, Cuyahoga Co., 1315 Lakeview Road, N. E., Cleveland, O. 1911
MOORE, G. R., Instructor in Civil Engineering, University of Cincinnati, Cincinnati, O. 1913
MOORE, H. F., Professor of Engineering Materials, University of Illinois, Urbana, Ill. 1905
MOORE, L. E., Bridge and Signal Engineer, Massachusetts Public Service Commission, Boston, Mass. 1907
MOORE, S. H., Director of Mechanic Arts, McKinley High School, St. Louis, Mo. 1902
MORE, CHAS. C., Professor of Civil Engineering, University of Washington, Seattle, Wash. 1901
MORECROFT, J. H., Assistant Professor of Electrical Engineering, Columbia University, New York, N. Y. 1908
MORGAN, WM. F., Trustee of Columbia University, Arch 11, Brooklyn Bridge, New York, N. Y. 1912
MORLEY, FRED, Civil Engineer, 818 Church St., Ann Arbor, Mich. 1896
MORRIS, C. T., Professor of Structural Engineering, Ohio State University, Columbus, O. 1907
MORRIS, J. J., Professor of Mechanical Constructive Practice, University of Pennsylvania, Philadelphia, Pa. 1912
MORRISON, I. F., Lecturer in Structural Engineering, University of Alberta, Edmonton South, Alta., Canada 1912
MORRISON, ROGER L., Professor of Highway Engineering, Texas A. & M. College, College Station, Tex. 1914
MORRILL, J. B., Assistant Professor of Engineering Mathematics, University of Colorado, Boulder, Colo. 1914
MORSE, G. H., Consulting Engineer, Mutual Electric & Machine Co., Wheeling, W. Va. 1907
MORSE, J. L., Instructor in Machine Design, Michigan Agricultural College, East Lansing, Mich. 1910
MOSS, EVERETT, 115 Commonwealth Ave., Boston, Mass. 1910
MOSELEY, A. W., Professor of Mechanical Engineering, Lewis Institute, Chicago, Ill. 1907
MOSS, S. A., Engineer, Turbine Research Dept., General Electric Co., Lynn, Mass. 1911

MOTT, W. E., Professor of Civil Engineering, Carnegie Institute of Technology, Pittsburgh, Pa. 1907
MOUNCE, J. L., Instructor in Wood Working, University of Pennsylvania, Philadelphia, Pa. 1912
MOYER, J. A., Professor of Mechanical Engineering, and Director of Engineering Extension in Pennsylvania, Pennsylvania State College, State College, Pa. 1904
MUHLFELD, J. E., Vice-President and General Manager, Kansas City Southern Railway, Kansas City, Mo. 1911
MULDOWNEY, J. W., Instructor in Heating and Ventilating, Franklin Union, Boston, Mass. 1912
MUNN, S. W., Lecturer in Mathematics and General Engineering, Queen's University, Kingston, Canada 1915
MUNRO, A. R., Senior Demonstrator in Engineering, University of Queensland, Brisbane, Australia 1913
MUNRO, M. S., Assistant Professor of Electrical Engineering, Tufts College, Tufts College, Mass. 1914
MUNROE, G. E., Construction Department, General Electric Co., Schenectady, N. Y. 1907
MUNROE, H. S., Professor of Mining, Columbia University, New York, N. Y. 1893
MURDOCK, H. E. Agricultural Engineer, Montana Experiment Station; Professor of Agricultural Engineering, College of Agriculture, University of Montana, Bozeman, Mont. 1910
MURPHY, J. F., Instructor in Foundry Work, University of Pennsylvania, Philadelphia, Pa. 1912
MURPHY, R. K., % P. R. Cole, Sydney Teachers College, Sydney, Australia 1914
MURRAY, D. A., Professor of Applied Mathematics, McGill University, Montreal, Canada 1910
MYERS, C. C., Professor of Coördination, University of Cincinnati, Cincinnati, O. 1914
NAGLE, J. C., Chairman, Board of Water Engineers, State of Texas, Austin, Texas 1897
NAIDU, A. S., Assistant Engineer, Vizianagram City, Vizagapatam District, Madras, India 1913
NAIDU, R. S., Manager and Head Accountant, Engineer's Office, Vizianagram City, Madras, South India 1914
NASH, C. A., Instructor in Electrical Engineering, Armour Institute of Technology, Chicago, Ill. 1913
NEEL, WM. T., Instructor in Engineering, Washington & Lee University, Lexington, Va. 1914
NEFF, F. H., Professor of Civil Engineering, Case School of Applied Science, Cleveland, O. 1895

NELSON, J. H., Professor of Applied Mechanics, Worcester Polytechnic Institute, Worcester, Mass. 1910

NELSON, J. R., Assistant Professor of English in the Dept. of Engineering, University of Michigan, Ann Arbor, Mich..... 1914

NESBIT, A. F., Consulting Engineer; Special Lecturer in Electrical Engineering, University of Pittsburgh, Pittsburgh, Pa. 1902

NEWCOMBE, J. L., Professor of Civil Engineering, University of Virginia, University, Va. 1915

NEWHALL, A. B., Instructor of Applied Science, Wentworth Institute, Boston, Mass. 1912

NEWKIRK, B. L., Assistant Professor of Mathematics and Mechanics, College of Engineering, University of Minnesota, Minneapolis, Minn. 1908

NEWTON, GUY D., Instructor in Mechanical Drawing and Descriptive Geometry, University of Missouri, Columbia, Mo..... 1913

NICHOLS, CHAS. S., Assistant to Dean, Director, Division of Engineering, Iowa State College, Ames, Ia. 1915

NORTHCOTT, J. A., Associate Professor of Mathematics, Syracuse University, Syracuse, N. Y. 1915

NICHOLS, GENERAL E. W., Superintendent, Virginia Military Institute, Lexington, Va. 1908

NOBLE, H. P., Consulting and Contracting Engineer, McLachlen Bldg., Washington, D. C. 1908

NORRENBERG, C. E., Instructor in Theoretical and Applied Mechanics, University of Illinois, Urbana, Ill..... 1910

NORRIS, E. B., Associate Professor of Mechanical Engineering, University of Wisconsin, Madison, Wis..... 1907

NORRIS, H. H., Associate Editor, *Electric Railway Journal*, 239 W. 39th St., New York, N. Y. 1900

NORTH, H. B., Assistant Professor of Drawing and Descriptive Geometry, Yale University, New Haven, Conn. 1908

NORTHCOTT, J. A., Associate Professor of Mathematics, Syracuse University, Syracuse, N. Y. 1915

NORTON, A. E., Assistant Professor of Engineering Drawing, Harvard University and Massachusetts Institute of Technology, Cambridge, Mass. 1910

NORWOOD, C. J., Dean of the College of Mines and Metallurgy, State University of Kentucky, Lexington, Ky..... 1907

NOTTINGHAM, A. R., M. E. Dept., Purdue University, W. LaFayette, Ind. 1910

NUGENT, P. C., Professor of Civil Engineering, Syracuse University, Syracuse, N. Y. 1914

NYSWANDER, R. E., Professor of Physics, University of Denver, Denver, Colo. 1912

OCKERBLAD, A. M., Examiner of Surveys in the U. S. Dept. of Agriculture, Forest Service, Washington, D. C. 1911
OHLE, E. L., Professor of Mechanical Engineering, Washington University, St. Louis, Mo. 1905
OLMSTED, CHAS. T., Instructor in Applied Mechanics and Hydraulics, Case School of Applied Science, Cleveland, O. 1914
OLSEN, TINIUS, President, Tinius Olsen Machine Co., 500 N. 12th St., Philadelphia, Pa. 1907
O'NEILL, J. F., Instructor in Mechanic Arts, Massachusetts Institute of Technology, Boston, Mass. 1912
ORTH, H. D., Instructor in Mechanical Drawing, University of Wisconsin, Madison, Wis. 1910
ORTON, EDWARD, JR., Professor of Ceramic Engineering and Dean of the College of Engineering, Ohio State University, Columbus, O. 1900
OSBORN, F. A., Professor of Physics, University of Washington, Seattle, Wash. 1907
OSBORNE, L. A., Vice-President, Westinghouse Electric & Mfg. Co., Pittsburgh, Pa. 1911
O'SHAUGHNESSY, LOUIS, Instructor in Mathematics, University of Pennsylvania, Philadelphia, Pa. 1912
OSSA, GASTON, Assistant in Physics, Universidad de Chile, Santiago, Chile, S. A. 1911
OSTRANDER, J. E., Professor of Mathematics and Civil Engineering, Massachusetts Agricultural College, Amherst, Mass. 1894
OSTRUP, JOHN C., Consulting Engineer, 17 Battery Place, New York, N. Y. 1907
OWEN, CHAS. H., Principal, Warner & Swasey Co. Apprentice School, Cleveland, O. 1912
OWEN, R. S., Instructor in Civil Engineering, University of Wisconsin, Madison, Wis. 1910
OWENS, R. B., Secretary of The Franklin Institute, Philadelphia, Pa. 1894
PAINE, E. B., Associate Professor of Electrical Engineering and Acting Head of the Department, University of Illinois, Urbana, Ill. 1911
PARCEL, J. I., Associate Professor of Structural Engineering, University of Minnesota, Minneapolis, Minn. 1910
PARK, C. F., Professor of Mechanism, Director of the Mechanical Laboratories, Director of Lowell Institute School for Industrial Foremen, Massachusetts Institute of Technology, Boston, Mass. 1903
PARKER, F. Y., U. S. Assistant Engineer, United States Engineer Office, Custom House, St. Louis, Mo. 1910

PARKER, L. G., Structural Steel Designer with Marshall & Fox, Architects, 919 First National Bank Bldg., Chicago, Ill. 1907

PARKIN, J. H., Lecturer, University of Toronto, Toronto, Ontario, Canada 1915

PARKS, C. W., Civil Engineer, United States Navy, Public Works Officer, Naval Station, Pearl Harbor, Honolulu, T. H. 1911

PARMLY, CHAS. H., Associate Professor of Physics, The College of the City of New York, New York, N. Y. 1912

PARR, S. W., Professor of Applied Chemistry, University of Illinois, Urbana, Ill. 1912

PASSANO, L. M., Associate Professor of Mathematics, Massachusetts Institute of Technology, Boston, Mass. 1912

PATTERSON, A. H., Professor of Physics and Dean of the School of Applied Science, University of North Carolina, Chapel Hill, N. C. 1907

PATTERSON, T. S., Instructor in Mechanics and Materials of Construction, The Pennsylvania State College, State College, Pa... 1914

PAUL, C. E., Associate Professor of Mechanics, Armour Institute of Technology, Chicago, Ill. 1907

PEARSON, R. A., President, Iowa State College, Ames, Ia..... 1914

PENCE, W. D., Professor of Railway Engineering, University of Wisconsin; Engineer, Interstate Commerce Commission, Madison, Wis. 1895

PENDER, HAROLD, Professor of Electrical Engineering, University of Pennsylvania, Philadelphia, Pa. 1909

PERRY, C. F., Supervisor of Manual and Industrial Training, Milwaukee Public Schools, Milwaukee, Wis..... 1907

PERRY, W. H., Instructor in Applied Science, Wentworth Institute, Boston, Mass. 1913

PETTEE, C. H., Dean and Professor of Mathematics, New Hampshire College, Durham, N. H. 1898

PHALEN, HAROLD R., Instructor in Mathematics, James Millikin University, Decatur, Ill. 1914

PHELPS, HOWARD E., Assistant Professor of Civil Engineering, University of Colorado, Boulder, Colo. 1914

PHELON, J. O., Professor of Electrical Engineering, Worcester Polytechnic Institute, Worcester, Mass. 1902

PHILBRICK, H. S., Professor of Mechanical Engineering, Northwestern University, Evanston, Ill. 1913

PHILLIPS, H. C., Valuation Engineer, Atchison, Topeka & Santa Fé Railway Co., 1033 Railway Exchange Bldg., Chicago, Ill..... 1913

PHILLIPS, J. D., Assistant Dean, College of Engineering, and Professor of Drawing, University of Wisconsin, Madison, Wis.... 1899

PICKELS, G. W., Jr., Instructor in Civil Engineering, University of Illinois, Urbana, Ill. 1910
PINTO, ANTHONY, Assistant Professor of Electrical Engineering, Cooper Union, New York, N. Y. 1913
PLANT, L. C., Head of the Department of Mathematics, Michigan Agricultural College, East Lansing, Mich. 1914
POND, FRANCIS J., Professor of Chemistry and Director of Chemical Laboratory, Stevens Institute of Technology, Hoboken, N. J. 1912
POND, G. G., Dean of the School of Natural Science, The Pennsylvania State College, State College, Pa. 1914
POOLE, CECIL P., Consulting Engineering, Atlanta, Ga. 1907
POORE, O. B., Manual Training Director, Aurora, Minn. 1911
POORMAN, A. P., Assistant Professor of Mechanics, Purdue University, LaFayette, Ind. 1907
POPE, WILLARD, Vice-President and Engineer, The Canadian Bridge Co., Ltd., Walkerville, Ontario 1911
PORTER, CHAS. T., Instructor in Mechanical Engineering, Yale University, New Haven, Conn. 1912
PORTER, DWIGHT, Professor of Hydraulic Engineering, Massachusetts Institute of Technology, Boston, Mass. 1893
PORTER, F. M., Associate in Engineering Drawing, University of Illinois, Urbana, Ill. 1912
PORTER, J. B., Professor of Mining Engineering, McGill University, Montreal, Quebec, Canada 1904
PORTER, J. F., President of the Tri-City Railway and Light Co., 125–127 West 3d St., Davenport, Iowa 1912
PORTER, J. M., Professor of Civil Engineering, Lafayette College, Easton, Pa. 1893
PORTER, R. A., Professor of Physics, Syracuse University, Syracuse, N. Y. 1908
POTTER, A. A., Professor of Steam and Gas Engineering and Dean of the Engineering Division, Kansas State Agricultural College, Manhattan, Kans. 1908
POTTER, J. C., 505 Wauwatosa Ave., Wauwatosa, Wis. 1913
POTTS, R. J., Civil Engineer, 1412 Amicable Bldg., Waco, Tex. ... 1910
POWERS, E. L., Editor *Good Roads*, 150 Nassau St., New York, N. Y. 1911
POWERS, W. P., Instructor in Electrical Engineering, University of Pittsburgh, Pittsburgh, Pa. 1914
PRATT, J. A., Director, Williamson Free School of Mechanical Trades, Delaware Co., Pa. 1908
PRENTICE, D. B., Assistant Instructor in Mechanical Engineering, Yale University, New Haven, Conn. 1912

PRICE, CHAS. B., Instructor in Mathematics and Drawing, Boys Trade School; Assistant Supervisor of Evening Trade School, Worcester Trade School, Worcester, Mass. 1914

PRIESTER, G. C., Instructor in Engineering Mathematics, University of Minnesota, Minneapolis, Minn. 1910

PRIME, A. C., Secretary Wemlinger Steel Piling Co., 1008 Spruce St., Philadelphia, Pa. (Life Member) 1910

PRITCHARD, S. R., Professor of Electrical Engineering, Virginia Polytechnic Institute, Blacksburg, Va. 1914

PRYOR, F. L., Professor of Experimental Engineering, Stevens Institute of Technology, Hoboken, N. J. 1908

PULLEN, M. W., Instructor in Electrical Engineering, Johns Hopkins University, Baltimore, Md. 1909

PURYEAR, CHARLES, Dean and Professor of Mathematics, Texas A. and M. College, College Station, Texas 1901

RADEBAUGH, G. H., Instructor in Machine Shop Practice, University of Illinois, Urbana, Ill. 1912

RALSTON, J. C., Consulting Engineer, also Vice-President and Consulting Engineer, Pacific Coast Pipe Co. of Seattle, 2421 W. Mission Ave., Spokane, Wash. 1910

RAMSOWER, H. C., Professor of Agricultural Engineering, The Ohio State University, Columbus, O. 1913

RANDALL, J. A., Pratt Institute, Brooklyn, N. Y. 1911

RANDALL, O. E., Professor of Mechanics and Mechanical Drawing and Dean of the University, Brown University, Providence, R. I. 1903

RANDOLPH, L. S., Professor of Mechanical Engineering and Dean of Engineering Dept., Virginia Polytechnic Institute, Blacksburg, Va. 1894

RANKIN, F. J., Instructor, Chicago Central Station Institute, 72 W. Adams St., Chicago, Ill. 1913

RANSOM, H. U., Instructor in Civil Engineering, Harvard University, Cambridge, Mass. 1913

RASMUSEN, J. E., Associate Professor of Applied Mechanics and Machine Design, University of Nebraska, Lincoln, Nebr. 1910

RAYMOND, F. N., Associate Professor of Rhetoric, University of Kansas, Lawrence, Kans. 1910

RAYMOND, H. M., Dean, Engineering Studies, Armour Institute of Technology, Chicago, Ill. 1903

RAYMOND, W. G., Dean of the College of Applied Science and Professor of Civil Engineering, State University of Iowa, Iowa City, Ia. 1893

RAYNER, WM. H., Instructor in Civil Engineering, University of Illinois, Urbana, Ill. 1913

READ, B. K., Engineer, Valecia Condensed Milk Co., Madison, Wis. 1913
REBER, LOUIS E., Dean, University Extension Division, University of Wisconsin, Madison, Wis. 1893
REED, PERCY L., Instructor in Civil Engineering, Drexel Institute, Philadelphia, Pa. 1914
REES, H. P., Head Instructor in Applied Electricity, Instituto de Electro Technica, Porto Alegre, Brazil..... 1910
REID, CLARENCE E., Professor of Electrical Engineering, Kansas State Agricultural College, Manhattan, Kans. 1907
REMICK, B. L., Professor of Mathematics, Kansas State Agricultural College, Manhattan, Kans. 1915
RETTGER, E. W., Assistant Professor of Applied Mechanics, Cornell University, Ithaca, N. Y. 1910
REW, IRWIN, Trustee of Northwestern University, 1128 Ridge Ave., Evanston, Ill. 1913
RICE, H. A., Professor of Mechanics and Structural Engineering, University of Kansas, Lawrence, Kans. 1915
RICHARDS, C. RUSS, Professor of Mechanical Engineering, in charge of the Department, Acting Dean of the College of Engineering and Acting Director of Engineering Experimental Station, University of Illinois, Urbana, Ill. 1895
RICHARDS, CHAS. RUSSELL, Director, Cooper Union, New York, N. Y. 1904
RICHARDS, T. E., Instructor, Michigan College of Mines, Houghton, Mich. 1910
RICHARDS, WM. H., Instructor in Wood Working, Manual Training and Pattern Making, University of Minnesota, Minneapolis, Minn. 1910
RICHARDSON, CLIFFORD, Consulting Engineer, Room 1615 Woolworth Bldg., 233 Broadway, New York, N. Y. 1913
RICHARDSON, G. R., Instructor in Steam Engineering, Franklin Union, Boston, Mass. 1912
RICHARDSON, M. R., Graduate Student in Mathematics, University of Chicago, Chicago, Ill. 1910
RICHEY, J. J., Associate Professor of Civil Engineering, Texas A. & M. College, College Station, Tex. 1910
RICHTER, A. W., Dean of the School of Engineering, University of Montana, Bozeman, Mont. 1894
RICHTMYER, F. K., Assistant Professor of Physics, Cornell University, Ithaca, N. Y. 1910
RICKER, N. C., Professor of Architecture, University of Illinois; President, Illinois Board of Examiners of Architects; Chairman, Illinois Commission on Building Laws, and Consulting Architect, Urbana, Ill. 1894

RIDDERVOLD, A. S., Assistant Professor of Civil Engineering, University of Nebraska, Lincoln, Nebr. 1912
RIESENBERGER, ADAM, Registrar and Treasurer, Stevens Institute of Technology, Hoboken, N. J. 1908
RIGGS, H. E., Professor of Civil Engineering, University of Michigan, Ann Arbor, Mich. 1913
RIGGS, N. C., Professor of Applied Mechanics, Carnegie Institute of Technology, Pittsburgh, Pa. 1907
RIGGS, W. M., President and Consulting Professor of Engineering, Clemson A. and M. College of South Carolina, Clemson College, S. C. 1897
RISLEY, W. J., Professor of Mathematics, James Millikin University, Decatur, Ill. 1910
RITTENHOUSE, L. H., Associate Professor of Mechanical and Electrical Engineering, Haverford College, Haverford, Pa. 1906
ROARK, LOUIS, Instructor in Geology, Mississippi A. & M. College, Agricultural College, Miss. 1914
ROBBINS, A. G., Professor of Topographical Engineering, Massachusetts Institute of Technology, Boston, Mass. 1894
ROBBINS, F. A., Assistant Professor of Electrical Engineering, Iowa State College, Ames, Ia. 1913
ROBERTS, H. A., Assistant Professor of Civil Engineering, University of Kansas, Lawrence, Kans. 1915
ROBERTS, MILNOR, Dean of the College of Mines, and Professor of Mining Engineering and Metallurgy, University of Washington, Seattle, Wash. 1910
ROBERTS, W. J., Chief Engineer, Inter-County River Improvement, 401 Court House, Tacoma, Wash. 1903
ROBERTSON, J. E., Professor of Mathematics, Highland Park College, Des Moines, Ia. 1913
ROBERTSON, JOHN E., Instructor in Civil Engineering, Mississippi A. & M. College, Agricultural College, Miss. 1914
ROBINSON, EDW., Professor of Mechanical Engineering, University of Vermont, Burlington, Vt. 1899
ROBINSON, F. H., Professor of Civil Engineering, Delaware College, Newark, Del. 1894
ROCKWELL, E. H., Professor of Structural Engineering, Tufts College, Tufts College, Mass. 1907
RODGERS, L. J., Head of Dept. of Machine Work, Wentworth Institute, Boston, Mass. 1912
RODHOUSE, T. J., Associate Professor of Hydraulic Engineering, University of Missouri, Columbia, Mo. 1904
RODMAN, W. S., Associate Professor of Electrical Engineering, University of Virginia, University, Va. 1915

ROE, J. W., Assistant Professor of Mechanical Engineering, Yale University, New Haven, Conn. 1908
ROEBER, E. F., Editor, *Metallurgical and Chemical Engineering*, 239 W. 39th St., New York, N. Y. 1909
ROGERS, RALPH, 1113 Lakeview Road, Cleveland, O. 1908
ROHRER, A. L., Electrical Superintendent, Schenectady Works, General Electric Co., Schenectady, N. Y. 1911
ROLLINS, A. P., Assistant Engineer, Medina Irrigation Co., San Antonio, Texas 1912
ROLLINS, E. B., Assistant Professor of Electrical Engineering, Tufts College, Tufts College, Mass. 1912
ROLLINS, JAS. W., President, Holbrook, Cabot & Rollins Corp., Engineers and Contractors, Boston, Mass. 1913
RONDINELLA, L. F., Head of Department of Drawing and Design, West Philadelphia High School for Boys, Philadelphia, Pa. .. 1903
ROOD, JAS. T., Professor (in charge) of Department of Electrical Engineering, Lafayette College, Easton, Pa. 1914
ROOT, J. E., Office Engineer, Division of Sewerage Investigations, Designs and Plans, Dept. of Public Service, Cincinnati, O..... 1910
ROOT, R. E., Professor of Mathematics and Mechanics, Post-Graduate Dept., U. S. Naval Academy, Md. 1914
RORTY, M. C., Manager, American Telephone & Telegraph Co., 15 Dey St., New York, N. Y. 1912
ROSEBRUGH, T. R., Professor of Electrical Engineering, University of Toronto, Toronto, Ontario, Canada..... 1896
ROSING, A. S., Civil Engineer, 7066 Paulina St., Chicago, Ill. 1911
ROWELL, L. D., Assistant Professor of Electrical Engineering, Purdue University, LaFayette, Ind. 1910
ROWLAND, A. J., Dean and Professor of Electrical Engineering, Drexel Institute, Philadelphia, Pa. 1903
ROWLEY, F. B., Assistant Professor of Drawing and Descriptive Geometry, University of Minnesota, Minneapolis, Minn. 1910
ROYS, F. W., Instructor in Mechanical Engineering, Worcester Polytechnic Institute, Worcester, Mass. 1914
RUGG, H. O., Instructor in General Engineering Drawing, University of Illinois, Urbana, Ill. 1909
RUGGLES, S. L., Instructor in Civil Engineering, Thayer School of Civil Engineering, Dartmouth College, Hanover, N. H. 1910
RUSSELL, L. K., Professor of Chemistry, Clarkson School of Technology, Potsdam, N. Y..... 1910
RUSSELL, W. B., Director, Franklin Union, Boston, Mass..... 1903
RYAN, H. J., Professor of Electrical Engineering, Leland Stanford Junior University, Stanford University, Calif. 1901

RYAN, W. T., Assistant Professor of Electrical Engineering, University of Minnesota, Minneapolis, Minn. 1911

SADLER, H. C., Professor of Naval Architecture and Marine Engineering, University of Michigan, Ann Arbor, Mich. 1907

SALAZAR, ARTURO EDMUNDO, Professor of Applied Physics and Electrical Engineering, Universidad de Chile, Santiago de Chile, S. A. 1914

SANBORN, F. B., Professor of Civil Engineering, Tufts College, Tufts College, Mass. 1912

SANBORN, F. E., Professor of Industrial Arts, Ohio State University, Columbus, O. 1899

SATTERFIELD, H. E., Professor of Mechanical Engineering, North Carolina College of A. and M. Arts, West Raleigh, N. C. 1909

SAWYER, A. R., Professor of Physics and Electrical Engineering, Michigan Agricultural College, East Lansing, Mich. 1907

SAVILLE, THORNDIKE, Assistant in Physics, Dartmouth College, Hanover, N. H. 1915

SAYRE, H. A., Professor of Mathematics, University of Alabama, University, Ala. 1910

SCHEALER, S. R., Assistant Professor of Electrical Engineering, Lehigh University, South Bethlehem, Pa. 1911

SCHERER, J. A. B., President, Throop College of Technology, Pasadena, Calif. 1913

SCHILDHAUER, EDWARD, Electrical and Mechanical Engineer, Isthmian Canal Commission, Culebra, Canal Zone, Panama 1912

SCHMIDT, E. C., Professor of Railway Engineering, University of Illinois, Urbana, Ill. 1907

SCHNEIDER, HERMAN, Professor of Civil Engineering and Dean of the College of Engineering, University of Cincinnati, Cincinnati, O. 1903

SCHUERMAN, W. H., Dean of the Engineering Department and Professor of Civil Engineering, Vanderbilt University, Nashville, Tenn. 1895

SCHWARZE, C. T., Assistant Professor of Civil Engineering, Cooper Union, New York, N. Y. 1912

SCIPIO, L. A., Dean and Professor of Mechanical Engineering, Robert College, Constantinople, Turkey 1910

SCOATES, DANIELS, Professor of Agricultural Engineering, Mississippi A. & M. College, Agricultural College, Miss. 1914

SCOTT, C. F., Professor of Electrical Engineering, Sheffield Scientific School, Yale University, New Haven, Conn. 1904

SCRUGHAM, J. G., Dean, College of Engineering, University of Nevada, Reno, Nev. 1914

SEATON, L. F., Assistant Professor of Agricultural Engineering, University of Nebraska, Lincoln, Nebr. 1914

SEATON, R. A., Professor of Applied Mechanics and Machine Design, Kansas State Agricultural College, Manhattan, Kans. 1912

SEAVER, H. L., Assistant Professor of English, Massachusetts Institute of Technology, Boston, Mass. 1908

SEELY, F. B., Instructor in Theoretical and Applied Mechanics, University of Illinois, Urbana, Ill. 1913

SEERY, FRANCIS J., Assistant Professor of Civil Engineering, Cornell University, Ithaca, N. Y. 1908

SELBY, L. B., Inspector, Ohio Inspection Bureau, Columbus, O. 1911

SELLERS, ROBT. R., Instructor in Civil Engineering, University of Florida, Gainesville, Fla. 1913

SEVER, G. F., Consulting Electrical Engineer, 13 Park Row, New York, N. Y. 1903

SEWARD, H. L., Instructor in Mechanical Engineering, Yale University, New Haven, Conn. 1910

SEXTON, F. H., President of the Nova Scotia Technical College, and Director of Technical Education, Halifax, Nova Scotia..... 1908

SEYFERT, S. S., Associate Professor of Electrical Engineering, Lehigh University, South Bethlehem, Pa. 1908

SHAAD, G. C., Professor of Electrical Engineering, University of Kansas, Lawrence, Kans. 1907

SHANE, ADOLPH, Dean of Engineering and Professor of Electrical Engineering, Highland Park College, Des Moines, Ia. 1907

SHATTUCK, E. L., Professor of Applied Mechanics and Thermodynamics, Louisiana Industrial Institute, Ruston, La. 1914

SHATTUCK, H. B., Associate Professor of Railroad Engineering, Pennsylvania State College, State College, Pa. 1906

SHAW, H. B., Commissioner, Public Service Commission of Missouri, Jefferson City, Mo. 1907

SHEDD, THOS. C., Assistant in Mechanical Engineering, Brown University, Providence, R. I. 1914

SHELDON, SAMUEL, Professor of Physics and Electrical Engineering, Polytechnic Institute of Brooklyn, Brooklyn, N. Y..... 1903

SHELDON, S. R., Dean and Professor of Electrical Engineering, Government Institute of Technology, Shanghai, China 1914

SHENEHON, F. C., Dean of the College of Engineering, University of Minnesota, Minneapolis, Minn. 1909

SHEPARD, GEO. H., Efficiency Engineer, 414 Delaware Ave., Buffalo, N. Y. 1910

SHEPARDSON, G. D., Professor of Electrical Engineering, University of Minnesota, Minneapolis, Minn. 1895

SHEPPARD, H. S., Instructor in Electrical Engineering, University of Michigan, Ann Arbor, Mich. 1914
SHERMAN, C. E., Professor of Civil Engineering, Ohio State University, Columbus, Ohio 1907
SHIPLEY, S. C., Assistant Professor of Machine Construction, and Superintendent of Shops, University of Minnesota, Minneapolis, Minn. 1908
SHOOP, C. F., Assistant Professor of Experimental Engineering, University of Minnesota, Minneapolis, Minn. 1906
SHORT, R. L., Principal, West Technical High School, Cleveland, O. 1902
SHUSTER, J. W., Assistant Professor of Electrical Engineering, University of Wisconsin, Madison, Wis. 1907
SHUTT, J. C., Assistant Instructor in Steam and Gas Engineering, Kansas State Agricultural College, Manhattan, Kans. 1914
SIBLEY, F. H., Associate Professor of Mechanical Engineering, University of Kansas, Lawrence, Kans. 1910
SIMMERING, S. L., Instructor in Steam and Gas Engineering, Kansas State Agricultural College, Manhattan, Kans. 1913
SKELTON, R. H., Instructor in Mechanical Drawing and Descriptive Geometry, Yale University, New Haven, Conn. 1914
SLAYMAKER, P. K., Professor of Machine Design, University of Nebraska, Lincoln, Neb. 1910
SLICHTER, C. S., Professor of Applied Mathematics, University of Wisconsin; Consulting Engineer, U. S. Reclamation Service, Madison, Wis. 1906
SLICHTER, W. I., Professor of Electrical Engineering, Columbia University, New York, N. Y. 1911
SLOCUM, R. H., Professor of Civil Engineering, North Dakota Agricultural College, Agricultural College, N. D. 1903
SLUSS, A. H., Assistant Professor of Mechanical Engineering, University of Kansas, Lawrence, Kans. 1915
SMALLWOOD, JULIAN C., Associate Professor of Mechanical Engineering, Syracuse University, Syracuse, N. Y. 1912
SMITH, ARTHUR BESSEY, Electrical Engineer, The Automatic Electric Co., Chicago, Ill. 1911
SMITH, A. G., Head of Dept. of Mathematics, State University of Iowa, Iowa City, Ia. 1909
SMITH, A. L., Professor of Drawing and Machine Design, Worcester Polytechnic Institute, Worcester, Mass. 1902
SMITH, E. B., Associate Mechanical Engineer, U. S. Office of Public Roads, 14th and B Sts., S. W., Washington, D. C. 1906
SMITH, G. W., Assistant in Mathematics, University of Illinois, Urbana, Ill. 1912

SMITH, H. B., Professor of Electrical Engineering, Worcester Polytechnic Institute, Worcester, Mass. 1898
SMITH, HARRY E., Professor of Steam Engineering, and Supt. of Power Plant, Texas A. & M. College, College Station, Tex..... 1895
SMITH, H. S. S., Professor of Civil Engineering, Princeton University, Princeton, N. J. 1894
SMITH, J. E., Assistant Professor of Civil Engineering, University of Illinois, Urbana, Ill. 1910
SMITH, J. HAMMOND, Professor of Civil Engineering, University of Pittsburgh, Pittsburgh, Pa. 1910
SMITH, JESSE M., Mechanical and Electrical Consulting Engineer, 32 W. 40th St., New York, N. Y. 1911
SMITH, L. S., Associate Professor of Topographic and Road Engineering, University of Wisconsin, Madison, Wis..... 1903
SMITH, P. F., Professor of Mathematics, Sheffield Scientific School, Yale University, New Haven, Conn. 1908
SMITH, P. R., Educational Dept., General Electric Co., Pittsfield, Mass. 1913
SMITH, RICHARD R., Manager, College Department, The Macmillan Company, 66 Fifth Ave., New York, N. Y..... 1914
SMITH, S. A., Assistant in Dept. of Architecture and Drawing, Kansas State Agricultural College, Manhattan, Kans. 1914
SMITH, WM. G., Assistant Professor of Kinematics and Descriptive Geometry, Armour Institute of Technology, Chicago, Ill..... 1914
SMOLEY, C. K., Structural Engineer and Technical Editor, International Textbook Co., Scranton, Pa. 1913
SMULL, T. J., JR., Dean of the College of Engineering and Professor of Civil Engineering, Ohio Northern University, Ada, O. 1907
SMYTH, H. L., Professor of Mining and Metallurgy and Director of the Mining and Metallurgical Laboratory, Harvard University, Cambridge, Mass. 1907
SNOW, CHAS. H., Dean of School of Applied Science and Professor of Civil Engineering, New York University, New York, N. Y.. 1895
SNOW, O. L., Instructor in Physics and Electrical Engineering, Michigan Agricultural College, East Lansing, Mich. 1911
SNOW, W. B., Publicity Engineer, 136 Federal St., Boston, Mass. 1899
SOLBERG, H. C., Professor of Mechanical Engineering, South Dakota State College of A. and M. Arts, Brookings, S. D. 1894
SORENSEN, R. W., Professor of Electrical Engineering, Throop College of Technology, Pasadena, Calif. 1912
SPALDING, F. P., Professor of Civil Engineering, University of Missouri, Columbia, Mo. 1893
SPEIRS, CHAS. E., Vice-President, D. Van Nostrand Publishing Co., New York, N. Y. 1914

SPENCE, D. W., Professor of Civil Engineering and Dean of Engineering, Texas A. & M. College, College Station, Texas 1914
SPERR, F. W., Professor of Civil and Mining Engineering, Michigan College of Mines, Houghton, Mich..... 1896
SPERRY, C. S., Instructor in Mathematics, Dept. of Engineering, University of Colorado, Boulder, Colo. 1914
SPINNEY, L. B., Professor of Physics, Iowa State College, Ames, Ia. 1899
SPOFFARD, C. M., Hayward Professor of Civil Engineering, Massachusetts Institute of Technology; Member of firm of Fay, Spoffard & Thorndike, Consulting Engineers, 308 Boylston, St. Boston, Mass. 1904
SPOONER, H. J., Director and Professor of Mechanical and Civil Engineering, Polytechnic School of Engineering, Regent St., W., London, England 1912
SPRAGUE, F. J., Consulting Engineer, 165 Broadway, New York, N. Y. 1911
SPRINGER, F. W., Professor of Electrical Engineering, University of Minnesota, Minneapolis, Minn. 1896
STANFORD, J. V., Professor of Mechanical Engineering, University of Pennsylvania, Philadelphia, Pa..... 1907
STANTON, CHAS. B., Assistant Professor of Railway Engineering, Carnegie Institute of Technology, Pittsburgh, Pa. 1915
STARKEY, L. C., Professor of Mechanical Engineering, Drexel Institute, Philadelphia, Pa..... 1914
STEARNS, W. D., Instructor in Experimental Electrical Engineering, Worcester Polytechnic Institute, Worcester, Mass..... 1910
STEELE, J. N., Instructor in Foundry Work, Dickinson High School, Jersey City, N. J. 1912
STEINMAN, D. B., Special Assistant Engineer, New York Connecting Railway, 68 Williams St., New York, N. Y. 1910
STEINMETZ, C. P., Chief Consulting Engineer, General Electric Co.; Professor of Electrophysics, Union University, Schenectady, N. Y. 1910
STELZNER, W. B., Adjunct Professor of Electrical Engineering, University of Arkansas, Fayetteville, Ark..... 1914
STEPHENSON, S. A., JR., Instructor in Civil Engineering, Rutgers College, New Brunswick, N. J. 1910
STETSON, J. M., Lecturer in Geometry, University of Alberta, Edmonton South, Alberta, Canada 1914
STEVENS, A. C., Instructor in Electrical Engineering, Cornell University, Ithaca, N. Y. 1912
STEVENS, E. F., Librarian, Pratt Institute Free Library, and Director, School of Library Science, Brooklyn, N. Y. 1908

STEVENS, F. H., Assistant Professor, University of Michigan, Ann Arbor, Mich. 1915
STEVENS, J. F., Civil Engineer, 45 Wall St., New York, N. Y. 1910
STEVENS, J. FLOYD, Assistant Professor of Electrical Engineering, University of North Dakota, University, N. D. 1913
STEWARD, R. K., Associate in General Engineering Drawing, University of Illinois, Urbana, Ill. 1910
STEWART, C. E., Assistant Professor Mechanic Arts, Franklin Union, Boston, Mass. 1908
STEWART, G. W., Professor of Physics, State University of Iowa, Iowa City, Ia. 1910
STEWART, L. B., Professor of Surveying and Geodesy, Faculty of Applied Science and Engineering, Toronto University, Toronto, Ontario, Canada. 1897
STEWART, O. M., Professor of Physics, University of Missouri, Columbia, Mo. 1909
STILLWELL, L. B., Consulting Engineer, 100 Broadway, New York, N. Y. 1912
STOCKWELL, F. C., Instructor in Electrical Engineering, Stevens Institute of Technology, Hoboken, N. J. 1914
STOEK, H. H., Professor of Mining Engineering, University of Illinois, Urbana, Ill. 1907
STONE, CHAS. W., Consulting Engineer, General Electric Co., Schenectady, N. Y. 1911
STONE, E. A., Professor of Structural Engineering, Queen's University, Kingston, Ontario 1907
STONE, JULIUS F., Trustee, The Ohio State University, c/o Seagrave Co., Columbus, O. 1913
STORM, E. R., Architect, 160 Fifth Ave., New York, N. Y. 1908
STOUT, O. V. P., Dean of the College of Engineering and Head Professor of Civil Engineering, University of Nebraska, Lincoln, Neb. 1894
STRAW, J. B., Instructor, University of Pennsylvania, Philadelphia, Pa. 1915
STRONG, ALBERT J., Instructor in Machine Design and Supt. of Shops, University of Florida, Gainesville, Fla. 1913
STREETER, R. L., Assistant Professor of Mechanical Engineering, Rensselaer Polytechnic Institute, Troy, N. Y. 1913
STRINGFELLOW, H. A., Head of Dept. of Civil Engineering, Mechanics Institute, Rochester, N. Y. 1915
STURGES, T. L., JR., Professor of Electrical Engineering, Delaware College, Newark, Del. 1910
SULLIVAN, GEO. L., Professor of Mechanical Engineering, University of Santa Clara, Santa Clara, Calif. 1912

SURVEYER, ARTHUR, Consulting Engineer; Surveyer & Fregon, 56 Beaver Hall Hill, Montreal, P. Q. Canada 1914
SUTHERLAND, C. H., Instructor in Civil Engineering, Massachusetts Institute of Technology, Boston, Mass..... 1914
SUTTIE, R. H., Instructor in Civil Engineering, Yale University, New Haven, Conn. 1912
SVENSON, C. L., Instructor in Engineering Drawing, The Ohio State University, Columbus, O. 1909
SWAIN, G. F., Professor of Civil Engineering and Consulting Engineer, Harvard University, Cambridge, Mass. 1893
SWAMY, B. N., Overseer, Public Works Vizianagram City Bldgs., Madras, South India 1913
SWARTZEL, K. D., Professor of Mathematics, Ohio State University, Columbus, O. 1910
SWEENY, F. R. I., Rensselaer Polytechnic Institute, Troy, N. Y. .. 1912
SWEETSER, E. O., Assistant Professor of Civil Engineering, Washington University, St. Louis, Mo. 1910
SWEETSER, W. J., Assistant Professor of Mechanical Engineering, Case School of Applied Science, Cleveland, O. 1910
SWETT, G. W., Assistant Professor of Machine Design, Massachusetts Institute of Technology, Boston, Mass. 1907
SWIFT, WALTER, Secretary, Department of Applied Science, University of Sheffield, Sheffield, England..... 1902
SWINNEY, J. B., Staff Secretary, Alexander Hamilton Institute, New York, N. Y. 1911
SYPHERD, W. O., Professor of English, Delaware College, Newark, Del. 1914
TABOR, WM. H., Instructor in Industrial Engineering, Pennsylvania State College, State College, Pa. 1914
TALBOT, A. N., Professor of Municipal and Sanitary Engineering, and in charge of Theoretical and Applied Mechanics, University of Illinois, Urbana, Ill. 1893
TALBOT, H. P., Professor of Inorganic Chemistry, Massachusetts Institute of Technology, Boston, Mass. 1902
TALLMAN, WM. D., Professor of Mathematics, Montana State College of A. & M. Arts, Bozeman, Mont. 1914
TANZER, E. Dean, Assistant Professor of Electrical Engineering, Lafayette College, Easton, Pa. 1915
TAYLOR, F. W., Consulting Engineer, Highland Ave., Chestnut Hill, Philadelphia, Pa. 1912
TAYLOR, I. I., Instructor in Applied Mathematics, Kansas State Agricultural College, Manhattan, Kans. 1915
TAYLOR, L. B., Engineering Bldg., University of Pennsylvania, Philadelphia, Pa. 1912

TAYLOR, T. U., Professor of Civil Engineering and Dean of Engineering Department, University of Texas, Austin, Texas..... 1902

TAYLOR, W. C., Assistant Professor of Civil Engineering, Union University, Schenectady, N. Y. 1913

TAYLOR, WM. E., Professor of Applied Mathematics and Head of Dept., College of Applied Science, Syracuse University, Syracuse, N. Y. 1913

TELLEEN, J. M., Assistant Professor of English, Case School of Applied Science, Cleveland, O. 1908

TEMPLE, W. E. S., Consulting Engineer; Assistant Professor of Electrical Engineering, University of Pennsylvania, Philadelphia, Pa. 1912

TERRELL, R. C., Professor of Highway Engineering, State University of Kentucky, Lexington, Ky.; State Commissioner of Public Roads, Franklin, Ky. 1913

THACH, C. C., President, Alabama Polytechnic Institute, Auburn, Ala. 1905

THALER, J. A., Professor of Electrical Engineering, Montana State College of A. and M. Arts, Bozeman, Mont. 1901

THAYER, H. R., Assistant Professor of Structural Design, Carnegie Institute of Technology, Pittsburgh, Pa. 1911

THOMAS, A. L., Instructor in Mechanical Drawing, Alabama Polytechnic Institute, Auburn, Ala. 1907

THOMAS, C. C., Head of the Department of Mechanical Engineering, Johns Hopkins University, Baltimore, Md. 1908

THOMAS, C. F., Instructor in Mathematics, Case School of Applied Science, Cleveland, O. 1909

THOMAS, CHAS. W., Instructor in Mechanical Drawing, University of Wisconsin, Madison, Wis. 1912

THOMAS, EVAN, Professor of Mechanics and Mathematics, University of Vermont, Burlington, Vt. 1908

THOMAS, FRANKLIN, Associate Professor of Civil Engineering, Throop College of Technology, Pasadena, Calif. 1914

THOMAS, GEO. B., Professor of Electrical Engineering, Colorado College, Colorado Springs, Colo. 1911

THOMAS, H. A., Associate Professor of Civil Engineering, Rose Polytechnic Institute, Terre Haute, Ind. 1913

THOMAS, R. G., Professor of Mathematics and Engineering, The Citadel, The Military College of S. C., Charleston, S. C..... 1894

THOMAS, R. P., Instructor in Applied Mathematics, University of Wooster, Wooster, O. 1914

THOMPSON, ALFRED, Instructor in Wood Working, University of Pennsylvania, Philadelphia, Pa. 1912

THOMPSON, FRANK F., Professor of Electrical Engineering, Rutgers College, New Brunswick, N. J. 1909
THOMPSON, G. S., Instructor in Mechanics, Rensselaer Polytechnic Institute, Troy, N. Y. 1907
THOMPSON, JAMES S., With McGraw-Hill Book Co., 239 W. 39th St., New York, N. Y. 1911
THOMPSON, R. E., Supt. Electric Dept., Ft. Smith Light & Traction Co., Ft. Smith, Ark. 1914
THOMPSON, F. A., Head of Department and Mining and Metallurgy, State College of Washington, Pullman, Wash. 1915
THOMSON, R. D., Assistant Professor of Electrical Engineering, University of Vermont, Burlington, Vt. 1912
THORKELSON, H. J., Professor of Steam and Gas Engineering, University of Wisconsin, Madison, Wis. 1909
THORNBURG, C. L., Professor of Mathematics and Astronomy, Lehigh University, South Bethlehem, Pa. 1894
THOROUGHGOOD, R. W., Professor of Civil Engineering, University of Florida, Gainesville, Fla. 1913
THURBER, CHAS. H., Editor, Ginn & Co., 29 Beacon St., Boston, Mass. 1914
THURSTON, E. B., Professor of Electrical and Mechanical Engineering, Ohio Northern University, Ada, O. 1912
THURSTONE, L. L., Instructor in Descriptive Geometry and Drawing, University of Minnesota, Minneapolis, Minn. 1912
TIBBETTS, F. H., Civil Engineer, Alaska Commercial Bldg., San Francisco, Calif. 1908
TILDEN, C. J., Professor of Civil Engineering, Johns Hopkins University, Baltimore, Md. 1913
TIMBIE, W. H., Head of Applied Science Dept., Wentworth Institute, Boston, Mass. 1908
TITSWORTH, A. A., Professor of Civil Engineering, Dean of Engineering, Rutgers College, New Brunswick, N. J. 1903
TIVEY, J. P., Demonstrator and Assistant Lecturer in Engineering, University of Queensland, Brisbane, Australia 1912
TODD, M. E., Professor of Electrical Engineering and Mechanical Drawing, North Dakota State Science School, Wahpeton, N. D. 1913
TOPPING, A. N., Associate Professor of Electrical Engineering, Purdue University, LaFayette, Ind. 1910
TOUCEDA, E. A., Professor of Metallurgy, Rensselaer Polytechnic Institute, Troy, N. Y. 1907
TOWER, C. H., Engineer, The Motor Devices Co., 1033 Williamson Bldg., Cleveland, Ohio 1911
TOWLE, W. M., Professor of Industrial Engineering, Clarkson College of Technology, Potsdam, N. Y. 1895

TOWNE, L. J., Supt. of Construction with Supervising Architect, University of Illinois, Urbana, Ill. 1911
TRACY, J. C., Assistant Professor of Structural Engineering, Yale University, New Haven, Conn. 1907
TRAILL, J. J., Lecturer on Hydraulics, University of Toronto, Toronto, Ont., Canada 1912
TRUMMELL, M. F., Instructor in Electrical Engineering and Physics, University of Virginia, University, Va. 1915
TUCKER, J. I., Professor and Director of the School of Civil Engineering, University of Oklahoma, Norman, Okla. 1912
TURLEY, O. J., Civil and Irrigation Engineer, Santa Fe, New Mexico. 1912
TURNEAURE, F. E., Dean of the College of Engineering, University of Wisconsin, Madison, Wis. 1894
TURNER, C. A. P., Engineer, 2675 Lake of Isles Blvd., Minneapolis, Minn. 1913
TURNER, D. L., Deputy Engineer of Subway Construction, Public Service Commission for the First District, 220 W. 107th St., New York, N. Y. 1898
TURNER, W. P., Professor of Practical Mechanics, Purdue University LaFayette, Ind. 1900
TURNER, WM. S., Consulting Engineer, 1006 Spalding Bldg., Portland, Ore. 1911
TYLER, H. W., Professor of Mathematics, Massachusetts Institute of Technology, Boston, Mass. 1894
TYRRELL, H. G., Consulting Engineer and Author, 817 Hinman Ave., Evanston, Ill. 1912
ULBRICHT, T. C., Assistant Auditor, Havana Electric Railway, Light & Power Co., Havana, Cuba 1909
UPSON, W. L., Associate Professor of Electrical Engineering, Union University, Schenectady, N. Y. 1910
USBY, E. L., Assistant Professor and Head of the Department of Manual Training, Ohio State University, Columbus, O. 1914
UX, RUSSELL R., Designer of Model Steam Engines and Locomotives, 806 North 8th St., Allentown, Pa. 1911
VAN BUSKIRK, H. C., Associate Professor of Mathematics, Throop College of Technology, Pasadena, Calif. 1911
VANDERBEECK, H. A., Professor of Civil Engineering, Government Institute of Technology, Shanghai, China 1915
VAN HAGAN, L. F., Assistant Professor of Railway Engineering, University of Wisconsin, Madison, Wis. 1912
VAN NESS, L. G., Vice-President and General Manager, Merchants' Power Co., Memphis, Tenn. 1907
VAN ORNUM, J. L., Professor of Civil Engineering, Washington University, St. Louis, Mo. 1895

VAUGHAN, L. L., Assistant Professor of Experimental Engineering, North Carolina College of A. & M. Arts, West Raleigh, N. C. 1912

VEAL, C. B., Professor of Machine Design, Purdue University, La-Fayette, Ind. 1910

VEDDER, H. K., Professor of Civil Engineering, Michigan Agricultural College, East Lansing, Mich. 1894

VEDDER, J. N., Professor of Thermodynamics, Union College, Schenectady, N. Y. 1910

VON ENDE, C. L., Professor of Chemistry, University of Idaho, Moscow, Idaho 1911

VON RITTER, ALEX., The Commonwealth Edison Co., N. W. Power Station, 2638 Maplewood Ave., North, Chicago, Ill. 1913

VOSE, F. H., Professor of Mechanical Engineering, in charge of the department, Case School of Applied Science, Cleveland, O. 1907

VOTEY, J. W., Professor of Civil Engineering and Dean of the College of Engineering, University of Vermont, Burlington, Vt. 1902

WADDELL, J. A. L., Consulting Bridge Engineer, Waddell and Harrington, 1012 Baltimore Ave., Kansas City, Mo. 1893

WADSWORTH, F. L. O., Consulting and Advisory Engineer, Oliver Bldg., Pittsburgh, Pa. 1911

WADSWORTH, J. E., Engineer, American Bridge Co., 22 Morsemere Place, Yonkers, N. Y. 1895

WADSWORTH, M. E., Emeritus Dean and Professor of Mining Geology and Curator of the Mineralogical and Petrographical Collections, University of Pittsburgh, Pittsburgh, Pa. 1895

WAGNER, F. C., Professor of Mechanical and Electrical Engineering, Rose Polytechnic Institute, Terre Haute, Ind. 1911

WAGNER, S. T., Assistant Engineer, The Philadelphia and Reading Railway Co., Philadelphia, Pa. 1911

WAGNER, W. C., Assistant Professor of Electrical and Mechanical Engineering, Clemson A. & M. College, Clemson College, S. C. 1912

WAIT, J. C., Attorney and Counsellor-at-law, Engineering Jurisprudence, Woolworth Bldg., 233 Broadway, New York, N. Y. 1907

WAITE, E. B., Dean and Head Consulting Department, American School of Correspondence, Chicago, Ill. 1914

WALDO, C. A., Thayer Professor of Mathematics and Applied Mechanics, Washington University, St. Louis, Mo. 1897

WALES, R. L., Professor of Mechanical Engineering and Dean of Engineering Depts., Rhode Island State College, Kingston, R. I. 1914

WALKER, AMASA, Manager of Educational Dept., Longmans, Green & Co., 443–449 Fourth Ave., New York, N. Y. 1914

WALKER, B. M., Vice-President and Director Evening School, and Professor of Mathematics, Mississippi A. & M. College, Agricultural College, Miss. 1911

WALKER, CHAS. L., Assistant Professor of Sanitary Engineering, College of Civil Engineering, Cornell University, Ithaca, N. Y. 1910

WALKER, E. D., Professor of Hydraulic and Sanitary Engineering, Pennsylvania State College, State College, Pa 1895

WALKER, E. S., Assistant Professor of Mechanical Engineering, University of Florida, Gainesville, Fla. 1910

WALKER, P. F., Professor of Mechanical Engineering and Dean of the School of Engineering, University of Kansas, Lawrence, Kans. 1907

WALKER, WM. H., Professor of Chemical Engineering, Massachusetts Institute of Technology, Boston, Mass. 1912

WALLER, O. L., Vice-President and Professor of Mathematics and Civil Engineering, State College of Washington, Pullman, Wash. 1911

WALLIS, R. S., Assistant Professor of Civil Engineering, Iowa State College, Ames, Ia. 1911

WALTERS, G. D., In charge of Duty of Water Investigations, Irrigation Branch, Dept. of Interior, Calgary, Alberta, Canada ... 1913

WATERMAN, E. L., Assistant Professor of Civil Engineering, Pennsylvania State College, State College, Pa. 1907

WATERS, E. O., Instructor in Machine Design, Sheffield Scientific School, Yale University, New Haven, Conn. 1914

WATSON, H. L., Instructor in Machine Design, Purdue University, W. LaFayette, Ind. 1914

WATSON, J. W., Assistant Professor of Electrical Engineering, University of Wisconsin, Madison, Wis. 1910

WATTS, C. W., Professor of Mathematics, The Virginia Military Institute, Lexington, Va. 1911

WEBB, H. E., Head of the Department of Mathematics, Central Commercial and Manual Training High School, Newark, N. J. 1912

WEBBER, R. I., Head of Department of Drawing and Architectural Engineering, Pennsylvania State College, State College, Pa. .. 1907

WEAVER, LEON H. A., 1809 Euclid Ave., Berkeley, Calif. 1914

WEBER, JOHN, Assistant Professor of Mechanical Engineering, University of Pittsburgh, Pittsburgh, Pa. 1914

WEED, J. M., Member of Student Committee, General Electric Co., Pittsfield, Mass. 1911

WENDELL, G. V., Professor of Physics, Columbia University, New York, N. Y. 1900

WENDT, W. B., Assistant Professor of Civil Engineering, Michigan Agricultural College, East Lansing, Mich. 1908

WENRICH, C. N., Professor of Physics, University of Pittsburgh, Pittsburgh, Pa. 1914

WERNECKE, CHAUNCEY, Civil Engineer, 1717 Fourth Ave., Seattle, Wash. 1912

WESTCOTT, A. L., Assistant Professor of Mechanical Engineering, University of Missouri, Columbia, Mo. 1908

WESTON, EDW., President, The Weston Electrical Instrument Co., Waverly Park, Newark, N. J. 1911

WHEATLEY, G. S., Instructor in Mechanical Engineering, University of Pennsylvania, Philadelphia, Pa. 1914

WHEELER, L. P., Assistant Professor of Physics, Yale University, New Haven, Conn. 1908

WHIPPLE, G. C., Professor of Sanitary Engineering, Harvard University, Cambridge, Mass.; Consulting Engineer, Firm of Hazen, Whipple & Fuller, New York, N. Y. 1896

WHITAKER, M. C., Professor of Chemical Engineering and Consulting Chemical Engineer, Columbia University, New York, N. Y. 1912

WHITE, A. E., Associate Professor of Mathematics, Kansas State Agricultural College, Manhattan, Kans. 1910

WHITE, E. C., Instructor in Railroad Engineering, Cornell University, Ithaca, N. Y. 1913

WHITE, J. M., Professor of Architectural Engineering and Supervising Architect, University of Illinois, Urbana, Ill. 1900

WHITEHEAD, J. B., Professor of Electrical Engineering, Johns Hopkins University, Baltimore, Md. 1913

WHITIN, E. S., Assistant in Social Legislation, Columbia University; Secretary, Executive Committee, National Committee on Prisons and Prison Labor, New York, N. Y. 1913

WHITMORE, J. B., Superintendent of Shops and Drawing Courses, West Technical High School, Cleveland, O. 1910

WHITTEMORE, H. L., Fayerweather Hall, Columbia University, New York, N. Y. 1909

WICKENDEN, WM. E., Assistant Professor of Electrical Engineering, Massachusetts Institute of Technology, Boston, Mass. ... 1912

WILD, H. J., Professor of Engineering, Pennsylvania Military College, Chester, Pa. 1914

WILEY, W. O., Publisher of Scientific Books, Secretary, John Wiley & Sons, New York, N. Y. 1904

WILLIAMS, C. C., Professor of Railway Engineering, University of Kansas, Lawrence, Kans. 1909

WILLIAMS, F. B., Professor of Mathematics, Clark College, Worcester, Mass. 1901

WILLIAMS, O. E., Assistant Professor of Engineering Drawing, The Ohio State University, Columbus, O. 1910

WILLIAMS, S. N., Professor Emeritus of Civil and Sanitary Engineering, Cornell College, 221 N. Lamon Ave, Chicago, Ill. 1893

WILLIAMS, W. S., Associate Professor of Topographical Engineering, University of Missouri, Columbia, Mo. 1913

WILLIS, A. J., Professor of Civil Engineering, South Dakota State College, Brookings, S. D. 1912

WILLIS, PAUL, President, Kenwood Bridge Co., 4857 Dorchester Ave., Chicago, Ill. 1910

WILLISTON, ARTHUR L., Principal, Wentworth Institute, Boston, Mass. 1897

WILLSON, F. G., Head of Dept. of Applied Electricity, Wentworth Institute, Boston, Mass. 1912

WILLSON, F. N., Professor of Graphics, Princeton University, Princeton, N. J. 1913

WILMORE, J. J., Dean, School of Engineering, and Professor of Mechanical Engineering, Alabama Polytechnic Institute, Auburn, Ala. 1894

WILSON, A. M., Professor of Electrical Engineering, University of Cincinnati, Cincinnati, O. 1907

WILSON, B. N., Professor of Mechanical Engineering, and Superintendent of Mechanic Arts, University of Arkansas, Fayetteville, Ark. 1907

WILSON, GEO. S., Associate Professor of Mechanical Engineering, University of Washington, Seattle, Wash. 1912

WILSON, JOHN F., Instructor in Electrical Engineering, University of Michigan, Ann Arbor, Mich. 1913

WILSON, V. T., Professor of Drawing and Design, Michigan Agricultural College, East Lansing, Mich. 1906

WILSON, W. L., Professor of Railroad Engineering, Lehigh University, South Bethlehem, Pa. 1909

WILSON, WILBUR M., Assistant Professor of Structural Engineering, University of Illinois, Urbana, Ill. 1914

WING, S. R., Acting Professor of Mechanical and Electrical Engineering, Pennsylvania College, Gettysburg, Pa. 1914

WINSLOW, A. E., Professor of Civil Engineering, Norwich University, Northfield, Vt. 1914

WINTER, J. W., Instructor in Mechanical Engineering, Drexel Institute, Philadelphia, Pa. 1914

WIRICK, C. M., Instructor in Chemistry, Junior College of Crane Technical High School, Chicago, Ill. 1914

WIRT, F. A., Instructor in Farm Mechanics, Kansas State Agricultural College, Manhattan, Kans. 1914
WITHAM, R. L., Instructor in Electrical Engineering Design, Worcester Polytechnic Institute, Worcester, Mass. 1914
WITHEY, M. O., Assistant Professor of Mechanics, University of Wisconsin, Madison, Wis. 1910
WITHROW, J. R., Professor of Chemistry, Ohio State University, Columbus, O. 1907
WITTIG, GUSTAV, Professor of Electrical Engineering and Physics, University of Alabama, University, Ala. 1910
Wolf, H. T., Professor of Mining, Colorado School of Mines, Golden, Col. 1914
WOLFEL, P. L., Chief Engineer, McClintic-Marshall Construction Co., Pittsburgh, Pa. 1910
WOOD, A. J., Associate Professor of Railway Mechanical Engineering, Pennsylvania State College, State College, Pa..... 1898
WOOD, E. H., Professor of Mechanics of Engineering, Cornell University, Ithaca, N. Y. 1910
WOODMAN, J. E., Professor of Geology and Director of Geological Museum, New York University, New York, N. Y. 1912
WOODS, H. C., Assistant Professor of Civil Engineering, Robert College, Constantinople, Turkey..... 1910
WOODWARD, R. S., President, Carnegie Institution of Washington, Washington, D. C. 1893
WOODWARD, S. M., Hydraulic Engineer, c/o Morgan Engineering Co., Dayton, O. 1910
WOOSTER, L. F., Assistant Professor of Electrical Engineering, Oregon Agricultural College, Corvallis, Ore. 1912
WRAY, J. G., Chief Engineer, Central Group of Bell Telephone Companies, 212 W. Washington St., Chicago, Ill. 1911
WRIGHT, A. S., Professor of Modern Languages, Case School of Applied Science, Cleveland, O. 1907
WRIGHT, D. M., Sec'y and Treasurer, The Henry & Wright Mfg. Co., 52 Irving St., Hartford, Conn. 1914
WURTS, A. J., Professor and Head of Electrical Department, Carnegie Institute of Technology, Pittsburgh, Pa. 1910
WYMAN, F. T., Chief Engineer, Pittsburgh Transformer Co., Pittsburgh, Pa. 1912
YERZLEY, W. A., Secretary and Engineer, Nagle Re-Blade Knife Co., Newark, N. J. 1907
YOUNG, C. M., Associate Professor of Mining Engineering, University of Kansas, Lawrence, Kans. 1907

YOUNG, C. R., Assistant Professor of Structural Engineering, University of Toronto, Toronto, Ont. 1914

YOUNG, G. A., Head of the Department of Mechanical Engineering, Purdue University, LaFayette, Ind. 1907

ZELENY, ANTHONY, Professor of Physics, University of Minnesota, Minneapolis, Minn. 1907

ZELLER, J. W., Duval High School, Jacksonville, Fla. 1912

ZELNER, O. S., Assistant Professor of Surveying, University of Minnesota, Minneapolis, Minn. 1910

ZERN, EDW. N., Professor of Mining Engineering, West Virginia University, Morgantown, W. Va. 1914

ZIMMERMAN, O. B., Advisory Engineer to Sales and Manufacturing in Europe, 11–13 Rue d'Arenberg, Brussels, Belgium 1902

ZIWET, ALEXANDER, Professor of Mathematics, University of Michigan, Ann Arbor, Mich. 1897

ZOWSKI-ZWIERZCHOWSKI, S. J., Professor of Mechanical Engineering, University of Michigan, Ann Arbor, Mich. 1910

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IDAHO.—Moscow: (City) *S. E. Hutton.* (Univ. of Idaho) L. J. Corbett; J. A. Kostalek; C. N. Little; C. L. von Ende; (4).

ILLINOIS.—Chicago: (City) *B. J. Arnold; Onward Bates; W. M. Camp; H. C. Coffeen; F. A. DeLay; J. W. Dietz; Harwood Frost; J. F. Gilchrist; H. P. Gillette; J. C. Hallsted; R. W. Hunt; C. W. Malcolm; A. J. Mason; L. G. Parker; H. C. Phillips; F. A. Randall; A. S. Rosing; A. B. Smith; C. L. Strobel; Alex. Von Ritter; Paul Willis; J. G. Wray;* (22). (Amer. Sch. Correspondence) E. B. Waite. (Armour Inst.) A. H. Anderson; E. H. Freeman; C. A. Nash; C. E. Paul; H. M. Raymond; Wm. G. Smith; (6). (Jr. Coll. of Crane Tech. H. S.) C. M. Wirick. (Univ. of Chicago) Carl Kinsley; M. R. Richardson; (2). (Lewis Inst.) H. E. Cobb; C. E. DePuy; A. W. Moseley; (3). **Decatur:** (James Millikin Univ.) H. R. Phalen; W. J. Risley; (2). **Evanston:** (City) *H. G. Tyrrell.* (Northwestern Univ.) O. H. Basquin; W. C. Bauer; W. H. Burger; J. F. Hayford; H. S. Philbrick; Irwin Rew; (6). **Moline:** (City) *W. V. Dunkin.* **Morgan Park:** (City) *H. D. Carpenter.* **Peoria:** (Bradley Polytech.) C. E. Comstock; F. H.

Evans; (2). **Urbana:** (Univ. of Ill.) S. O. Andros; I. O. Baker; B. W. Benedict; P. S. Biegler; G. P. Boomsliter; Morgan Brooks; A. M. Buck; A. R. Crathorne; R. E. Davis; J. A. Dent; J. A. DeTurk; A. B. Domonoske; M. L. Enger; S. P. Farwell; I. W. Fisk; V. R. Fleming; N. B. Garver; G. A. Goodenough; W. F. M. Goss; E. A. Holbrook; R. B. Keller; O. A. Leutwiler; F. C. Loring; A. B. McDaniel; D. F. McFarland; H. W. Miller; H. F. Moore; C. E. Noerenberg; E. B. Paine; S. W. Parr; G. W. Pickels, Jr.; F. M. Porter; G. H. Radebaugh; Wm. H. Rayner; C. Russ Richards; N. C. Ricker; H. O. Rugg; E. C. Schmidt; F. B. Seely; Guy W. Smith; J. E. Smith; R. K. Steward; H. H. Stoek; A. N. Talbot; L. J. Towne; J. M. White; W. M. Wilson; (48). **Waukegan:** (City) *H. G. Benedict.* **Wilmette:** (City) *H. J. Burt.*

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IOWA.—Ames: (Iowa State College) T. R. Agg; J. T. Bates; S. W. Beyer; G. A. Chaney; M. P. Cleghorn; R. W. Crum; J. F. H. Douglas; M. I. Evinger; F. A. Fish; H. C. Ford; G. A. Gabriel; G. E. Hesse; A. H. Hoffman; E. E. King; Anson Marston; W. H. Meeker; C. S. Nichols; R. A. Pearson; F. A. Robbins; L. B. Spinney; R. S. Wallis; (21). **Davenport:** (City) *J. F. Porter.* **Des Moines:** (Highland Park Coll.) Ray Crow; O. L. Lewis; J. E. Robertson; Adolph Shane; (4). **Iowa City:** (State Univ. of Ia.) A. H. Ford; H. D. Frary; F. G. Higbee; R. E. Hutchins; B. J. Lambert; W. G. Raymond; A. G. Smith; G. W. Stewart; (8). **Mt. Vernon:** (Cornell Coll.) F. M. McGaw.

KANSAS.—Lawrence: (Univ. of Kans) C. H. Ashton; F. L. Brown; J. D. Garver; G. Goldsmith; G. J. Hood; F. E. Jones; C. A. Johnson; W. C. McNown; F. N. Raymond; H. A. Rice; H. A. Roberts; G. C. Shaad; F. H. Sibley; A. H. Sluss; P. F. Walker; C. C. Williams; C. M. Young; (16). **Manhattan:** (Kans. State Agri. Coll.) W. H. Andrews; M. R. Bowerman; W. W. Carlson; L. E. Conrad; F. F. Frazier; P. J. Freeman; J. O. Hamilton; F. C. Harris; Jacob Lund; G. B. McNair; A. A. Potter; C. E. Reid; R. A. Seaton; J. C. Shutt; S. L. Simmering; S. A. Smith; A. E. White; F. A. Wirt; (18).

KENTUCKY.—Lexington: (Univ. of Ky.) F. P. Anderson; W. E. Freeman; C. J. Norwood; R. C. Terrell; (4).

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MARYLAND.—Annapolis: (U. S. Naval Acad.) R. E. Root; L. A. Doggett; (2). **Baltimore:** (City) *W. W. Crosby; J. E. Greiner;* (2). (Johns Hopkins Univ.) G. R. Jones; M. W. Pullen; C. C. Thomas; C. J. Tilden; J. B. Whitehead; (5).

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Alexander Dillingham; S. C. Earle; W. L. Hooper; A. C. Lane; H. H. Marvin; M. S. Munro; E. H. Rockwell; E. B. Rollins; F. B. Sanborn; (14). **Wauwatosa:** (City) *J. C. Potter.* **Winchester:** (City) *C. T. Main.* **Worcester:** (Clark College) J. C. Hubbard; F. B. Williams; (2). (Worcester Polytech. Inst.) F. J. Adams; C. M. Allen; W. W. Bird; A. D. Butterfield; J. C. Davis; A. W. French; I. N. Hollis; H. C. Ives; C. D. Knight; J. H. Nelson; J. O. Phelon; F. W. Roys; A. L. Smith; H. B. Smith; W. D. Stearns; R. L. Witham; (16). (Worcester Trade School) E. H. Fish; C. B. Price; (2).

MICHIGAN.—Ann Arbor: (Univ. of Mich.) J. R. Allen; Hugh Brodie; J. H. Bringhurst; J. A. Bursley; M. E. Cooley; J. E. Emswiler; F. R. Finch; H. J. Goulding; L. M. Gram; K. E. Guthe; H. H. Higbie; W. C. Hoad; S. J. Hoexter; H. B. Hutchins; C. T. Johnston; H. W. King; W. L. Miggett; J. R. Nelson; H. E. Riggs; H. C. Sadler; H. S. Sheppard; J. F. Wilson; Alex. Ziwet; S. J. Zowski-Zwierzchowski; (24). **Calumet:** (City) *Jas. MacNaughton.* **Detroit:** (City) *A. T. Baldwin.* **East Lansing:** (Mich. Agri. Coll.) G. W. Bissell; M. M. Cory; G. A. Kelsall; W. L. Lodge; J. L. Morse; L. C. Plant; A. R. Sawyer; O. L. Snow; H. K. Vedder; W. H. Wendt; V. T. Wilson; (11). **Houghton:** (City) *L. L. Hubbard.* (Mich. Coll. of Mines) Wm. Anderson; G. L. Christensen; Jas. Fisher; E. D. Grant; F. W. McNair; T. E. Richards; F. W. Sperr; (7). **Ishpeming:** (City) *M. M. Duncan.* **Lapeer:** (City) *Fred Morley.* **Painesdale:** (City) *F. W. Denton.*

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MISSISSIPPI.—Agricultural College: (Miss. A. & M. Coll.) R. C. Carpenter; R. W. Gay; H. D. McMurtray; Louis Roark; J. E. Robertson; Daniels Scoates; B. M. Walker; (7). **University:** (Univ. of Miss.) Alfred Hume.

MISSOURI.—Columbia: (Univ. of Mo.) L. M. Defoe; E. A. Fessenden; E. R. Hedrick; H. W. Hibbard; A. L. Hyde; E. W. Kellogg; E. J. McCaustland; W. A. Miller; G. D. Newton; T. J. Rodhouse; H.

B. Shaw; F. P. Spalding; O. M. Stewart; A. L. Westcott; W. S. Williams; (15). **Jefferson City:** (City) *H. B. Shaw.* **Kansas City:** (City) *C. S. Burns, B. J. Dalton; J. L. Harrington; I. G. Hedrick; J. E. Muhlfeld; J. A. L. Waddell;* (6). (M. T. H. S.) J. M. Kent. (Northeast H. S.) Wm. S. Luby. **Rolla:** (School of Mines) L. E. Garrett; A. L. McRae; (2). **St. Louis:** (City) *A. C. Einstein; F. Y. Parker;* (2). (Christian Bros. Coll.) R. T. Callaghan; Brother Hubert Lewis; (2). (David Ranken, Jr., Sch.) M. W. Acker; Lewis Gustafson; (2). (McKinley H. S.) S. H. Moore. (Washington Univ.) F. A. Berger; A. S. Langsdorf; E. L. Ohle; E. O. Sweetser; J. L. Van Ornum; C. A. Waldo; (6).

MONTANA.—Bozeman: (Mont. Agri. Coll.) L. D. Conkling; C. S. Dearborn; J. McC. Hamilton; Wm. D. Tallman; J. A. Thaler; (5). (Univ. of Mont.) H. E. Murdock; A. W. Richter; (2).

NEBRASKA.—Lincoln: (Univ. of Nebr.) J. N. Bridgman; L. W. Chase; G. R. Chatburn; E. W. Davis; O. J. Ferguson; J. D. Hoffman; V. L. Hollister; C. E. Mickey; J. E. Rasmusen; A. S. Riddervold; L. F. Seaton; P. K. Slaymaker; O. V. P. Stout; (13).

NEVADA.—Reno: (Univ. of Nev.) H. P. Boardman; Chas. Haseman; J. G. Scrugham; (3).

NEW HAMPSHIRE.—Durham: (N. H. Coll.) C. H. Pettee. **Hanover:** (Dartmouth Coll.) F. E. Austin; Robert Fletcher; C. N. Haskins; C. A. Holden; S. L. Ruggles; Thorndike Saville; (6).

NEW JERSEY.—Elizabeth: (City) *G. A. Hamilton.* **Ft. Hancock:** (City) *A. S. Buyers.* **Hoboken:** (Stevens Inst. of Tech.) M. A. Charavay; R. F. Deimel; F. DeR. Furman; A. F. Ganz; C. O. Gunther; L A. Hazeltine; A. C. Humphreys; D. S. Jacobus; A. S. Kinsey; E. R. Knapp; C. B. LePage; L. A. Martin, Jr.; F. J. Pond; F. L. Pryor; Adam Riesenberger; F. C. Stockwell; (16). **Jersey City:** (Dickinson H. S.) C. H. Handforth; F. E. Mathewson; J. N. Steele; (3). **Montclair:** (City) *Wm. Kent.* **Newark:** (City) *Philander Betts; R. E. Danforth; Edward Weston; W. A. Yerzley;* (4). (M. T. H. S.) H. E. Webb. **New Brunswick:** (Rutgers Coll.) R. C. H. Heck; A. R. Johnson; H. N. Lendall; S. A. Stephenson, Jr; F. F. Thompson; A. A. Titsworth; (6). **Perth Amboy:** (City) *C. P. Linville.* **Princeton:** (Princeton Univ.) F. H. Constant; H. B. Fine; H. S. S. Smith; F. N. Willson; (4). **Ramsey;** (City) *Emerson McMillin.*

NEW MEXICO.—Santa Fe: (City) *O. J. Turley.* **State College:** (N. M. Coll. of A. & M. Arts) A. F. Barnes; F. L. Bixby; C. T. Hagerty; (3).

NEW YORK.—Albany: (City) *J. A. Bensel.* **Buffalo:** (City) *G. H. Shepard.* **Elmira:** (City) *G. G. Durham.* **Ithaca:** (Cornell Univ.)

W. N. Barnard; F. A. Barnes; A. G. Bierma; C. G. Brown; R. C. Carpenter; W. G. Catlin; I. P. Church; W. R. Cornell; Carl Crandall; C. L. Crandall; S. G. George; E. E. Haskill; F. A. Hitchcock; H. S. Jacoby; Vladimir Karapetoff; O. M. Leland; G. S. Macomber; Robertson Matthews; E. W. Rettger; F. K. Richtmyer; F. J. Seery; A. C. Stevens; C. L. Walker; E. C. White; E. H. Wood; (25). **Minetto, Oswego Co.:** (City) *R. M. Mark.* **New York City:** (City) *M. R. Bump; Edward Caldwell; Andrew Carnegie; J. J. Carty; C. A. Coffin; E. L. Corthell; E. L. Coster; H. L. Doherty; Louis Duncan; Gano Dunn; W. C. Fisk; M. M. Foss; F. B. Gilbreth; A. H. Goldingham; C. W. Gremple; C. R. Grimm; F. A. Halsey; E. P. Hamilton; Rudolph Hering; C. H. Higgins; E. G. Hooper; C. W. Hunt; F. B. Jewett; Bassett Jones, Jr.; W. H. Kershaw; Frank Koester; J. W. Lieb, Jr.; C. R. Mann; W. C. Marshall; T. C. Martin; Mansfield Merriman; Ralph Modjeski; H. H. Norris, J. C. Ostrup; E. L. Powers; Clifford Richardson; E. F. Roeber; M. C. Rorty; G. F. Sever; J. M. Smith; R. R. Smith; Chas. E. Speirs; F. J. Sprague; D. B. Steinman; J. F. Stevens; L. B. Stillwell; E. R. Storm; Jas. Thompson; D. L. Turner; J. C. Wait; Amasa Walker; W. O. Wiley;* (57). (Alex. Hamilton Inst.) J. B. Swinney. (Brooklyn M. T. H. S.) F. B. Abbott. (Brooklyn Polytech.) A. A. Adler; F. W. Atkinson; W. J. Berry; H. R. Codwise; W. D. Ennis; Erich Hausmann; C. W. Hudson; Samuel Sheldon; (8). (College of the City of N. Y.) C. H. Parmly. (Columbia Univ.) A. H. Blanchard; C. H. Burnside; W. H. Burr; Wm. B. Eddison; F. A. Goetze; F. W. Hehre; C. E. Lucke; J. H. Morecroft; W. F. Morgan; H. S. Munroe; W. I. Slichter; G. V. Wendell; M. C. Whitaker; E. S. Whitin; H. L. Whittemore; (15). (Cooper Union) Albert Ball; F. E. Foss; F. M. Hartmann; Anthony Pinto; C. Russell Richards; C. T. Schwarze; (6). (Heb. Tech. Inst.) E. S. Barney. (N. Y. Eve. H. S.) S. E. Coombs. (New York Univ.) W. R. Bryans; H. Dunham; Alexander Haring; A. E. Hill; C. E. Houghton; C. H. Snow; J. E. Woodman; (7). (Pratt Inst.) A. A. Adler; A. L. Cook; S. S. Edmands; G. P. Hitchcock; E. H. Koch, Jr; J. A. Randall; E. F. Stevens; (7). **Potsdam:** (Clarkson School of Tech.) J. P. Brooks; Paul Cloke, Hugh Miller; L. K. Russell; W. M. Towle; (4). **Rochester:** (Mech. Inst.) F. E. Haskell; R. R. Martel; H. A. Stringfellow. **Schenectady:** (City) *H. M. Hobart; August Hund; G. E. Munroe; A. L. Rohrer; C. W. Stone;* (6). (Union Univ.) E. J. Berg; J. A. C. Callan; E. E. F. Creighton; O. H. Landreth; C. P. Steinmetz; W. C. Taylor; W. L. Upson; J. N. Vedder; (8). **Syracuse:** (Syracuse Univ.) W. P. Graham; E. E. Lawton; Louis Mitchell; J. A. North-

cott; P. C. Nugent; R. A. Porter; J. C. Smallwood; Wm. E. Taylor; (7). **Troy:** (City) *H. M. Dibert; Wm. F. Gurley;* (2). (Rensselaer Polytech. Inst.) Paul Cook; C. W. Crockett; A. M. Greene, Jr.; L. F. Moody; R. L. Streeter; F. R. I. Sweeny; G. S. Thompson; E. A. Touceda; (8). **Yonkers:** (City) *J. E. Wadsworth.*

NORTH CAROLINA.—Chapel Hill: (Univ. of N. C.) J. M. Bell; P. H. Daggett; C. H. Herty; T. F. Hickerson; R. L. James; A. H. Patterson; (6). **West Raleigh:** (N. C. Agri. Coll.) W. H. Browne, Jr.; W. T. Ellis; H. E. Satterfield; L. L. Vaughan; (4).

NORTH DAKOTA.—Agricultural College: (N. D. Agri. Coll.) C. F. Chase; R. H. Slocum; (2). **University:** (Univ. of N. D.) E. J. Babcock; A. J. Becker; E. F. Chandler; C. H. Crouch; J. F. Stevens; (5). **Wahpeton:** (N. D. State Sci. School) M. E. Todd.

OHIO.—Ada: (Ohio Northern Univ.) T. J. Smull, Jr.; E. B. Thurston; (2). **Akron:** (Municipal Univ. of Akron) F. E. Ayer; J. S. Mathewson; (2). **Cincinnati:** (City) *J. E. Root.* (Univ. of Cincinnati) Jas. Aston; G. M. Braune; J. T. Faig; A. L. Jenkins; J. J. Long; G. R. Moore; C. C. Myers; Herman Schneider; A. M. Wilson; (9). **Cleveland:** (City) *E. J. Edwards; W. O. Henderer; E. P. Hyde; W. K. Monroe; Dalton Moomaw; C. H. Owen; Ralph Rogers; C. H. Tower;* (8). (Case School of A. S.) H. D. Allen; F. M. Comstock; C. W. Coppersmith; R. H. Danforth; H. B. Dates; C. L. Eddy; T. M. Focke; M. B. Greenough; J. M. Henderson; C. S. Howe; D. C. Miller; F. H. Neff; C. T. Olmsted; W. J. Sweetser; J. M. Telleen; C. F. Thomas; F. H. Vose; A. S. Wright; (17). (Cleveland Tech. H. S.) H. V. Egbert; R. L. Short; J. B. Whitmore; (3). **Columbus:** (City) *C. P. Crowe; E. A. Hitchcock; S. G. McMeen; J. R. Marker; L. B. Selby;* (5). (The Ohio State Univ.) J. E. Boyd; J. N. Bradford; A. I. Brown; F. C. Caldwell; E. F. Coddington; D. J. Demorset; F. H. Eno; A. E. Flowers; C. W. Foulk; T. E. French; A. C. Harper; F. W. Ives; Horace Judd; W. A. Knight; W. T. Magruder; F. W. Marquis; Robt. Meiklejohn; C. T. Morris; Edw. Orton, Jr; H. C. Ramsower; F. E. Sanborn; C. E. Sherman; J. F. Stone; C. L. Svenson; K. D. Swartzel; E. L. Usury; O. E. Williams; J. R. Withrow; (28). **Dayton:** (City) *E. A. Deeds; J. H. Hunt; S. M. Woodward;* (3). **Ravenna:** (City) *T. C. Mendenhall.* **Steubenville:** (City) *A. E. Hubbard.* **Toledo:** (The Toledo Univ.) A. R. Cullimore. **Warren:** (City) *E. S. Foster.* **Wooster:** (Univ. of Wooster) R. P. Thomas.

OKLAHOMA.—Norman: (Univ. of Okla.) H. V. Bozell; H. B. Dwight; J. H. Felgar; J. I. Tucker; (4). **Shawnee:** (City) *F. D. Brown.* **Stillwater:** (Okla. A. & M. Coll.) Wm. Augel; F. C. Biggin; Alfred Boyd; Charles Jablow; E. J. Kunze; (5).

OREGON.—Corvallis: (Ore. Agri. Coll.) D. E. Buyers: G. A. Covell; R. E. Edgecomb; W. A. Hillebrand; L. F. Wooster; (5). **Eugene:** (Univ. of Ore.) C. W. Converse; F. G. Frink; E. H. McAlister; (3). **Portland:** (City) *W. S. Turner.* (Reed Coll.) H. B. Hastings.

PENNSYLVANIA.—Allentown: (City) *R. R. Ux.* **Athens:** (City) *F. O. Dufour.* **Burnham:** (City) *L. H. Fry.* **Chester:** (Pa. Mil. Coll.) H. C. Bird; H. J. Wild; (2). **Chestnut Hill:** (C. H. Academy) C. H. Harper. **Easton:** (Lafayette Coll.) Wm. T. Lyle; J. M. Porter; J. T. Rood; (3). **East Pittsburgh;** (City) *C. R. Dooley.* **Erie:** (City) *J. W. Hughes.* **Gettysburg:** (Pennsylvania Coll.) R. S. Kirby. **Haverford:** (Haverford Coll.) L. H. Rittenhouse. **Lewisburg:** (Bucknell Univ.) F. E. Burpee; C. A. Lindemann; (2). **Philadelphia:** (City) *A. W. Ayer; E. W. Bacon; A. T. Bruegel; M. L. Cooke; Chas. Day; H. J. Hotchkiss; R. R. Keely; H. H. Lauer; J. F. Lewis; Tinius Olsen; A. C. Prime; F. W. Taylor; S. T. Wagner;* (13). (Drexel Inst.) J. L. Beaver; H. N. Benkert; (Mrs.) Katharine D. Brown; W. B. Creagmile; H. H. Denn; Hollis Godfrey; H. V. Gummere; P. L. Reed; A. J. Rowland; L. C. Starkey; J. W. Winter; (11). (Franklin Inst.) R. B. Owens. (Girard Coll.) J. M. Jameson. (Univ. of Pennsylvania) Samuel Applin; Elmer Bark; C. J. Belsky; C. W. Bloemker; W. G. H. Brehmer; Wm. Easby, Jr.; H. E. Ehlers; H. B. Evans; G. W. H. Fawkes; R. H. Fernald; John Frazier; H. P. Fry; P. R. Hall; E. L. Ingram; Wm. F. Johnson; Roy Kegerreis; R. H. Krewson; E. M. Lawley; Edgar Marburg; J. J. Morris; J. L. Mounce; J. F. Murphy; Louis O'Shaughnessy; Harold Pender; J. V. Stanford; J. B. Straw; L. B. Taylor; W. E. S. Temple; Alfred Thompson; G. S. Wheatley; (30). (West Philadelphia H. S.) L. F. Rondinella. **Pittsburgh:** (City) *J. C. Bland; B. F. Groat; O. P. Hood; Albert Kingsbury; E. H. McClelland; H. H. McClintic; D. W. McNaugher; L. A. Osborne; F. L. O. Wadsworth; P. L. Wolfel; F. T. Wyman;* (11). (Pittsburgh C. H. S.) P. M. Dysart. (Carnegie Inst. of Tech.) H. T. R. Aude; B. C. Dennison; L. O. Grondahl; A. A. Hamerschlag; H. S. Hower; J. H. James; S. S. Keller; J. H. Leete; F. M. McCullough; W. E. Mott; N. C. Riggs; C. B. Stanton; H. R. Thayer; A. J. Wurts; (14). (Univ. of Pittsburgh) F. L. Bishop; R. M. Black; G. W. Case; D. F. Crawford; H. E. Dyche; L. E. Endsley; F. A. Foraker; A. E. Frost; L. H. Harris; F. J. Holder; Morris Knowles; J. S. Lambie; P. M. Lincoln; L. C. McCandliss; S. B. McCormick; H. B. Meller; A. F. Nesbit; W. P. Powers; J. H. Smith; W. E. Wadsworth; John Weber; W. N. Wenrich; (22). **Primos:** (City) *K. F. Adamson.* **Ralston:** (City) *F. A. Dalburg.* **Scranton:** (I. C. S.) C. L. Bryden;

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RHODE ISLAND.—Kingston: (Rhode Island State Coll.) L. P. Dickinson; R. L. Wales; (2). **Providence:** (City) *W. A. Kennedy; F. B. Gilbreth.* (Brown Univ.) J. A. Brooks; Hardy Cross; N. F. Davis; J. A. Hall; J. E. Hill; W. H. Kenerson; O. E. Randall; T. C. Shedd; (9).

SOUTH CAROLINA.—Charleston: (The Citadel) L. S. LeTellier; R. G. Thomas; (2). **Clemson College:** (Clemson A. & M. Coll.) F. T. Dargan; S. B. Earle; Hale Houston; W. M. Riggs; W. C. Wagner; (5).

SOUTH DAKOTA.—Brookings: (S. D. State Coll.) B. B. Brackett; Robertson Cook; H. B. Mathews; H. C. Solberg; A. J. Willis; (5). **Vermilion:** (Univ. of S. D.) L. E. Akeley.

TENNESSEE,—Knoxville: (City) *F. R. Jones.* (Univ. of Tenn.) Brown Ayres; W. W. Carson; C. E. Ferris; (3). **Lebanon:** (Cumberland Univ.) W. H. Drane. **Memphis:** (City) *L. G. Van Ness.* **Nashville:** (Vanderbilt Univ.) W. H. Schuerman.

TEXAS.—Austin: (City) *J. C. Nagle.* (Univ. of Tex.) H. Y. Benedict; S. L. Brown; J. M. Bryant; Ollison Craig; F. E. Giesecke; T. U. Taylor; (6). **College Station:** (Texas A. & M. Coll.) Rolland Adelsperger; F. C. Bolton; E. J. Fermier; E. C. Gee; A. C. Love; R. L. Morrison; Charles Puryear; J. J. Richey; H. E. Smith; D. W. Spence; (10). **Ft. Bliss:** (Tex. State School of Mines & Metallurgy) J. H. Kidd. **Ft. Worth:** (City) *J. B. Hawley.* **San Antonio:** (City) *A. P. Rollins.* **Waco:** (City) *R. J.* Potts.

UTAH.—Brigham City: (City) *A. J. Jobson.* **Provo:** (City) *V. Y. Davoud.* **Salt Lake City:** (City) *G. M. Bacon; Joseph Jenson;* (2). (Univ. of Utah) W. C. Ebaugh; J. L. Gibson; A. A. Knowlton; R. R. Lyman; J. F. Merrill; (5).

VERMONT.—Burlington: (Univ. of Vt.) H. W. Blackburn; J. S. Eaton; W. H. Freedman; W. L. Fulton; H. H. Khachadoorian; Edw. Robinson; Evan Thomas; R. D. Thomson; J. W. Votey; (8). **Northfield:** (Norwich Univ.) A. E. Winslow.

VIRGINIA.—Blacksburg: (Va. Polytech. Inst.) J. S. A. Johnson; R. A. Marr; S. R. Pritchard; L. S. Randolph; (4). **Charlottesville:** (City) *W. D. Weaver.* **Falls Church:** (City) *H. P. Noble.* **Lexington:** (Va. Military Inst.) Francis Mallory; E. W. Nichols; C. W. Watts; (3). (Wash. & Lee Univ.) D. C. Humphreys; Wm. T. Neel; (2). **Norfolk:** (City) *W. J. Harahan.* **University:** (Univ. of Va.) C. Hancock; L. G. Hoxton; J. S. Lapham; J. L. Newcomb; W. S. Rodman; M. F. Trummell; (6).

WASHINGTON.—Pullman: (State Coll. of Wash.) F. A. Thomson; O. L. Waller. **Seattle:** (City) *Edwin Haviland; Chauncey Wernecke;* (2). (Univ. of Wash.) S. L. Boothroyd; L. F. Curtis; Joseph Daniels; A. H. Fuller; G. I. Gavett; W. A. Gleason; C. E. Magnusson; C. C. May; C. C. More; F. A. Osborn; Milnor Roberts; G. S. Wilson; (12). **Spokane:** (City) *J. C. Ralston.* **Tacoma:** (City) *W. J. Roberts.* **Walla Walla:** (Whitman Coll.) W. A. Bratton; B. H. Brown; G. B. Dunmore; (3).

WEST VIRGINIA.—Morgantown: (W. Va. Univ.) E. F. Church, Jr.; R. P. Davis; W. E. Dickinson; F. L. Emory; J. B. Grumbein; C. R. Jones; E. N. Zern; (7). **Wheeling:** (City) *G. H. Morse.*

WISCONSIN.—Madison: (City) *C. F. Burgess, Wm. R. McCann; B. K. Read;* (3). (Univ. of Wis.) Edw. Bennett; C. I. Corp; B. G. Elliott; A. L. Goddard; E. M. Gorrow; E. G. Hoefer; R. McA. Keown; G. L. Larson; J. G. D. Mack; R. S. McCaffery; E. S. Maclin; E. R. Maurer; D. W. Mead; A. V. Millar; E. B. Norris; H. D. Orth; R. S. Owens; W. D. Pence; J. D. Phillips; L. E. Reber; J. W. Shuster; C. S. Slichter; L. S. Smith; C. W. Thomas; H. J. Thorkelson; R. E. Turneaure; L. F. VanHagen; J. W. Watson; M. O. Withey; (29). **Milwaukee:** (City) *G. H. Benzenberg; A. W. Berresford; F. W. Krotzer* (3). (Marquette Univ.) J. C. Davis. (Milwaukee Public Schools) C. F. Perry.

WYOMING.—Laramie: (Univ. of Wyo.) A. C. Boyle, Jr.; A. E. Bellis; J. C. Fitterer; (3).

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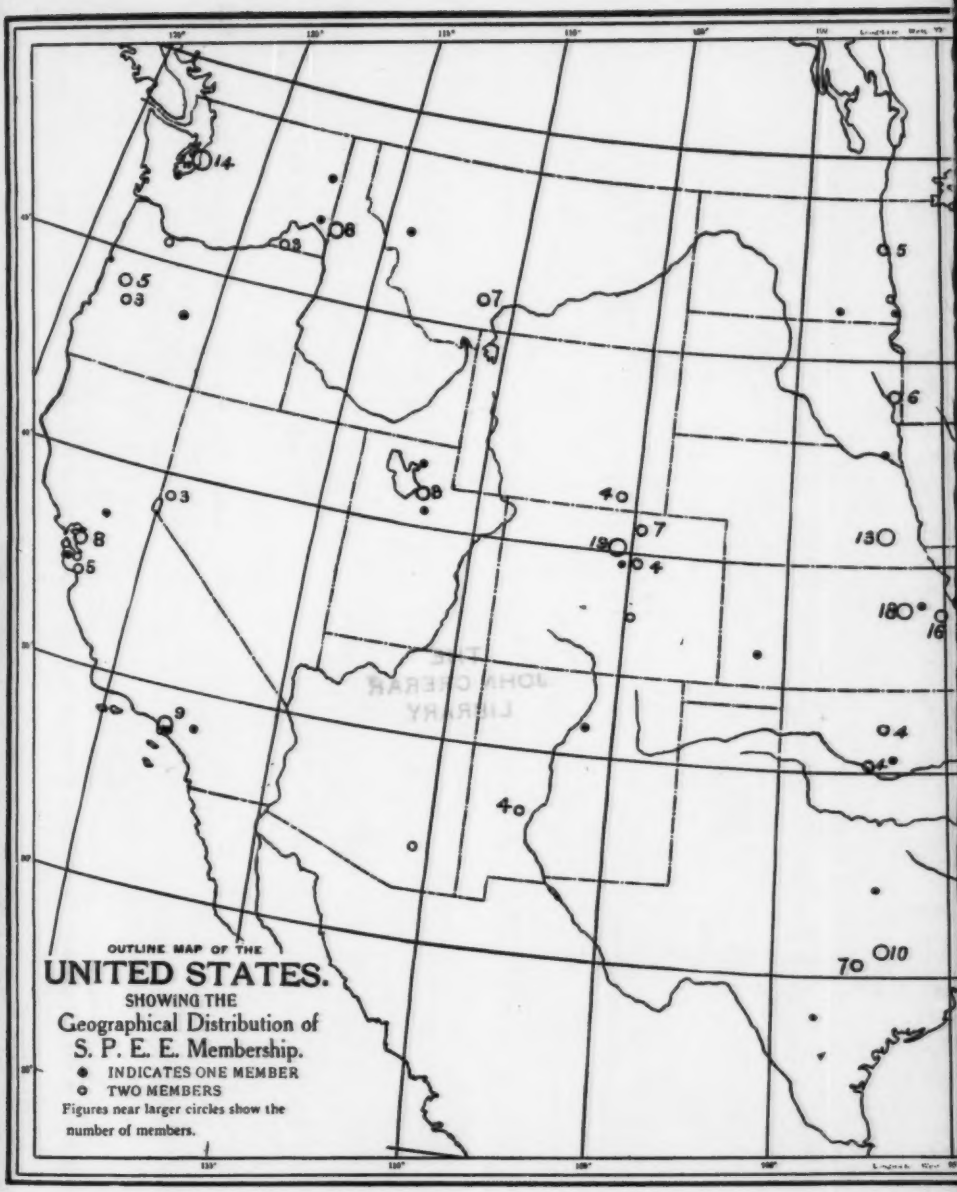
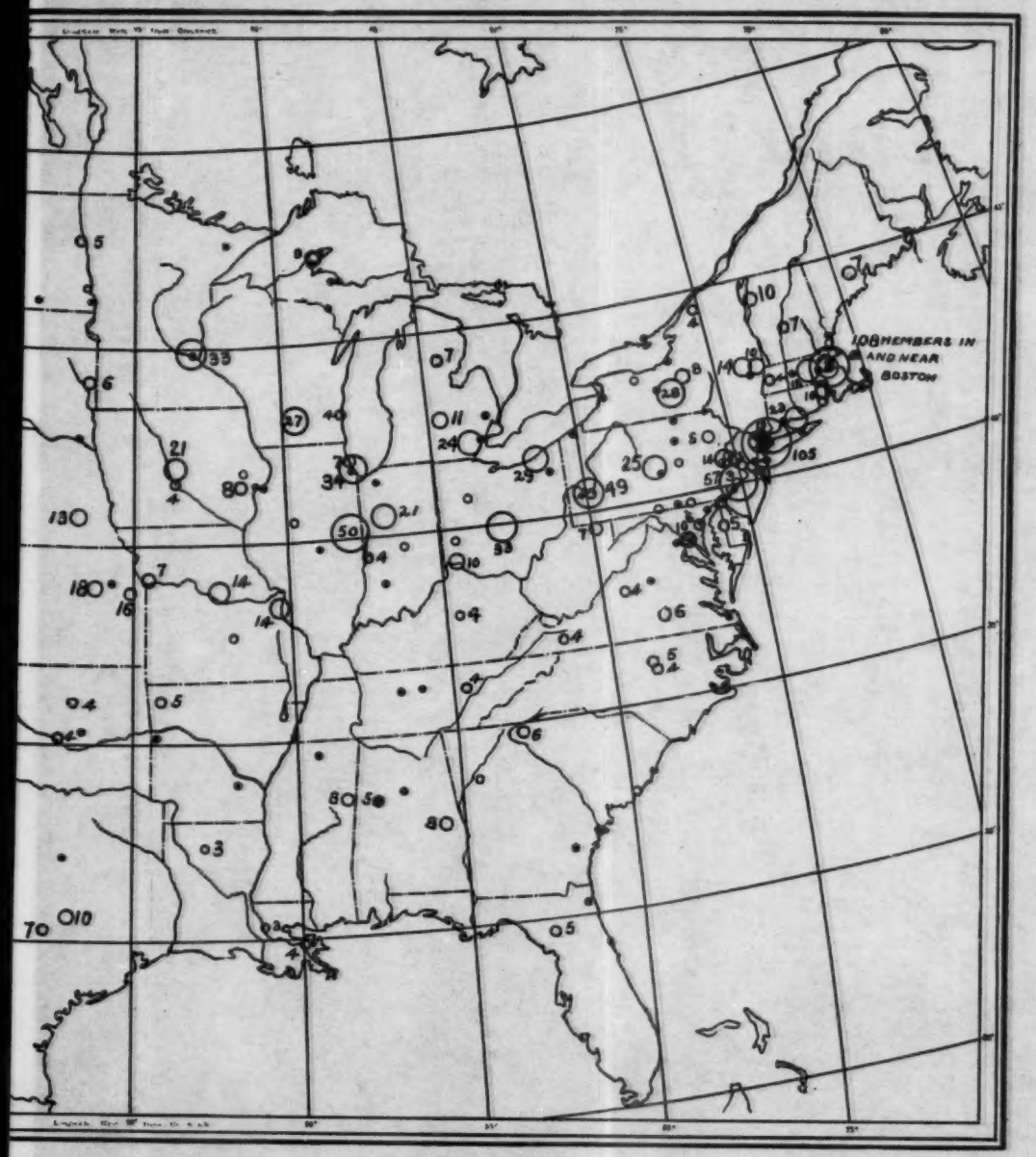
AUSTRALIA.—Brisbane: (Univ. of Queensland) A. J. Gibson; A. R. Munro; (2) **Sydney:** (City) *H. H. Carter; R. K. Murphy; J. P. Tivey;* (3). (Univ. of Sydney) S. H. Barraclough.

BELGIUM.—Brussels: (City) *O. B. Zimmerman.*

BRAZIL.—Porto Alegre: (Escola de Engenharia) C. F. Dreyer. (Inst. Tech. Prof.) Joao Luderitz; H. P. Rees; (2).


OUTLINE MAP OF THE
UNITED STATES.
SHOWING THE
Geographical Distribution of
S. P. E. E. Membership.
INDICATES ONE MEMBER
TWO MEMBERS
Figures near larger circles show the number of members.


108 MEMBERS IN AND NEAR BOSTON

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Colorado	33	Nevada	4	Wyoming	3
Connecticut	26	New Hampshire	7	Australia	6
Delaware	5	New Jersey	39	Belgium	1
Dist. of Columbia	11	New Mexico	6	Brazil	3
Florida	6	New York	170	Canada	36
Georgia	4	North Carolina	10	Chile	3
Idaho	5	North Dakota	8	China	4
Illinois	95	Ohio	85	Cuba	1
Indiana	27	Oklahoma	10	England	2
Iowa	35	Oregon	10	Greece	1
Kansas	36	Pennsylvania	172	Hawaii Territory	2
Kentucky	4	Rhode Island	12	Hungary	1
Louisiana	10	South Carolina	7	India	4
Maine	8	South Dakota	6	Japan	3
Maryland	9	Tennessee	7	Mexico	1
Massachusetts	118	Texas	21	Norway	1
Michigan	49	Utah	9	Panama	1
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CONSULTING ENGINEERS: G. G. Anderson; Bion Arnold; H. G. Benedict; G. H. Benzenberg; H. V. Bozell; L. G. Carpenter; Elmer L. Corthell; W. W. Crosby; Chas. Day; J. B. Hawley; L. H. Harris; J. G. Hedrick; Chas. H. Higgins; H. M. Hobart; C. W. Hudson; S. E. Hutton; Joseph Jenson; Wm. Kent; Albert Kingsbury; R. D. Kneale; Frank Koester; O. H. Landreth; P. M. Lincoln; R. C. Lye; C. T. Main; W. C. Marshall; Leonard Metcalf; Ralph Modjeski; G. H. Morse; A. F. Nesbit; J. C. Ralston; Clifford Richardson; G. F. Sever; C. S. Slichter; G. H. Shepard; L. B. Stillwell; J. M. Smith; G. F. Swain; W. E. S. Temple; F. W. Taylor; Wm. S. Turner; H. G. Tyrrell; F. L. O. Wadsworth; (42).

VARIOUS OTHER OCCUPATIONS: Onward Bates; P. L. Bean; Philander Betts; H. J. Burt; Louis Duncan; W. V. Dunkin; G. G. Durham; A. O. Gates; H. O. Garman; R. R. Heuter; E. G. Hooper; H. J. Hotchkiss; J. H. Hunt; F. B. Jewett; F. R. Jones; W. H. Kershaw; J. F. Lewis; O. L. Lewis; Wm. R. McCann; Dalton Moomaw; L. E. Moore; Fred. Morley; A. M. Ockerblad; J. C. Potter; Robt. J. Potts; A. Von Ritter; W. J. Roberts; J. E. Root; H. B. Shaw; J. B. Swinney; T. C. Ulbricht; Amasa Walker; L. H. A. Weaver; (33).

SUMMARY BY OCCUPATIONS.

	Teacher	Non-Teacher
Administrative Officers in Industrial, Constructing and Operating Companies	—	84
Architecture	12	7
Deans and Directors only	—	41
Deans and Directors also holding professorships	94	—
Drawing	67	1
Engineering:		
Agricultural	10	2
Ceramic	1	1
Chemical	7	6
Civil	191	60
Electrical	177	61
Experimental	20	—
Gas	14	7
General	18	33
Highway	20	10
Hydraulic	38	—
Industrial and Efficiency	12	12
Irrigation	—	9
Marine	1	—
Mechanical	168	38
Mining	21	1
Municipal, State and Sanitary	19	11
Publicity	—	2
Railway	31	14
Steam	35	10
Structural and Bridge	39	28
Topographic and Geodetic	6	1
English and other Languages	12	—
History and Economics	2	3
Journalists, Librarians and Publishers	—	24
Machine Design	43	6
Manual Training	9	—
Mathematics	111	—
Mechanics and Materials	81	4
Officers of National Societies	—	12
Petrography and Mining Geology	—	1

	Teacher	Non-Teacher
Presidents and other Officers of Eduucational and Allied Institutions	—	50
Science:		
Chemistry	20	3
Geology	7	4
Metallurgy	10	—
Physics	72	3
Shops and Mechanic Arts	52	—
Trustees of Educational Institutions	—	11
Consulting Engineers	—	42
Various other Occupations	—	33

INSTITUTIONS REPRESENTED.

	1912	1913	1914
Acadia University, Wolfville, Nova Scotia	1	0	0
Akron, Municipal University of, Akron, O.	0	0	2
Alabama Polytechnic Institute, Auburn, Ala.	8	8	8
Alabama, University of, University, Ala.	3	5	5
Alberta, University of, Edmonton South, Alta, Canada	1	1	2
Alexander Hamilton Institute, New York, N. Y.	0	1	1
Arizona, University of, Tucson, Ariz.	1	2	2
Arkansas, University of, Fayetteville, Ark.	4	5	6
Armour Institute of Technology, Chicago, Ill.	5	5	6
Boston Industrial School for Boys, Boston, Mass.	2	2	2
Bradley Polytechnic Institute, Peoria, Ill.	2	2	2
Brooklyn Manual Training H. S., Brooklyn, N. Y.	1	1	1
Brooklyn Polytechnic Institute, Brooklyn, N. Y.	7	7	8
Brown University, Providence, R. I.	9	9	9
Bucknell University, Lewisburg, Pa.	2	2	2
Buffalo Technical H. S., Buffalo, N. Y.	1	1	0
California, University of, Berkeley, Cal.	6	7	4
Carnegie Institution, Washington, D. C.	1	1	1
Carnegie Institute of Technology, Pittsburgh, Pa.	13	11	14
Case School of Applied Science, Cleveland, O.	14	17	17
Chestnut Hill Academy, Chestnut Hill, Pa.	1	1	1
Chicago, University of, Chicago, Ill.	2	2	2
Christian Brothers College, St. Louis, Mo.	1	2	2
Cincinnati, University of, Cincinnati, O.	6	8	9
Citadel, The, Charleston, S. C.	2	2	2
Clark College, Worcester, Mass.	2	2	2
Clarkson College of Technology, Potsdam, N. Y.	4	4	4
Clemson A. & M. College, Clemson College, S. C.	4	6	5
Cleveland Technical H. S., Cleveland, O.	2	3	3
College of the City of N. Y., New York, N. Y.	1	1	1
Colorado College, Colorado Springs, Colo.	2	2	2
Colorado School of Mines, Golden, Colo.	1	1	1
Colorado State Agri. College, Fort Collins, Colo	5	5	6
Colorado, University of, Boulder, Colo.	9	13	19
Columbia University, New York, N. Y.	15	16	15
Cooper Union, New York, N. Y.	7	6	6
Cornell College, Mt. Vernon, Ia.	2	2	1
Cornell University ,Ithaca, N. Y.	29	27	25

Cumberland University, Lebanon, Tenn.	1	1	1
Dartmouth College, Hanover, N. H.	5	5	6
David Rankin Jr. Sch., St. Louis, Mo.	1	2	2
Delaware College, Newark, Del.	4	3	4
Denver, University of, Denver, Colo.	1	1	1
Dickinson H. S., Jersey City, N. J.	1	3	3
Dorchester H. S., Dorchester Center, Mass.	1	1	1
Drexel Institute, Philadelphia, Pa.	4	9	11
Duval High School, Jacksonville, Fla.	0	1	1
Escola de Engenharia, Porto Alegre, Brazil	1	1	1
Florida, University of, Gainesville, Fla.	3	5	5
Franklin Institute, Philadelphia, Pa.	1	1	1
Franklin Union, Boston, Mass.	4	5	5
George Washington University, Washington, D. C.	2	2	3
Georgia School of Technology, Atlanta, Ga.	1	1	2
Girard College, Philadelphia, Pa.	0	1	1
Government Institute of Technology, Shanghai, China	0	0	2
Harvard University, Cambridge, Mass.	14	15	14
Haverford College, Haverford, Pa.	1	1	1
Hebrew Technical Institute, New York, N. Y.	0	1	1
Highland Park College, Des Moines, Ia.	0	4	4
Idaho, University of, Moscow, Ida.	6	7	4
Illinois, University of, Urbana, Ill.	51	50	47
Indiana University, Bloomington, Ind.	1	1	1
Instituto Technico Professional, Porto Alegre, Brazil	1	2	2
International Correspondence Schools, Scranton, Pa.	4	5	4
Iowa State College, Ames, Ia.	15	17	21
Iowa, State University of, Iowa City, Ia.	7	7	8
James Millikin University, Decatur, Ill.	0	1	2
Johns Hopkins University, Baltimore, Md.	1	4	5
Kansas City M. T. H. S., Kansas City, Mo.	1	1	1
Kansas City N. E. H. S., Kansas City, Mo.	0	0	1
Kansas State Agri. College, Manhattan, Kans.	12	11	18
Kansas, University of, Lawrence, Kans.	9	7	16
Kentucky, State University of, Lexington, Ky.	4	4	4
Lafayette College, Easton, Pa.	1	4	3
Lehigh University, South Bethlehem, Pa.	16	14	14
Leland Stanford Jr. Univ., Stanford Univ., Calif.	5	3	3
Lewis Institute, Chicago, Ill.	3	3	3
Louisiana Industrial Institute, Ruston, La.	0	2	3
Louisiana State University, Baton Rouge, La.	3	3	3
McGill University, Montreal, Canada	3	5	5
McKinley High School, St. Louis, Mo.	1	1	1

McKinley M. T. S., Washington, D. C.	0	1	1
Maine, University of, Orono, Me.	9	9	7
Manitoba, University of, Winnipeg, Man.	3	3	3
Marquette University, Milwaukee, Wis.	1	1	1
Massachusetts Agri. College, Amherst, Mass.	1	1	1
Massachusetts Inst. of Tech., Boston, Mass.	38	38	36
Mechanics Institute, Rochester, N. Y.	0	1	1
Michigan Agri. College, East Lansing, Mich.	17	10	11
Michigan College of Mines, Houghton, Mich.	7	8	7
Michigan, University of, Ann Arbor, Mich.	11	20	24
Milwaukee Public Schools, Milwaukee, Wis.	1	1	1
Minnesota, University of, Minneapolis, Minn.	30	31	31
Mississippi A. & M. College, Agricultural College, Miss.	4	8	7
Mississippi, University of, University, Miss.	1	1	1
Missouri School of Mines, Rolla, Mo.	2	2	2
Missouri, University of, Columbia, Mo.	11	14	15
Montana Agri. College, Bozeman, Mont.	4	5	5
Montana, University of, Missoula, Mont.	2	1	2
Nebraska, University of, Lincoln, Nebr.	12	13	13
Nevada, University of, Reno, Nev.	1	3	3
Newark Manual Training H. S., Newark, N. J.	1	1	1
New Hampshire College, Durham, N. H.	1	2	1
New Mexico Coll. of A. & M. Arts, State College, N. M.	4	3	3
New York Evening High School for Men, New York, N. Y.	0	1	1
New York University, New York, N. Y.	6	7	7
North Carolina Agri. College, West Raleigh, N. C.	4	4	4
North Carolina, University of, Chapel Hill, N. C.	3	5	6
North Dakota Agri. College, Agricultural College, N. D.	2	2	2
North Dakota State Science School, Wahpeton, N. D.	0	1	1
North Dakota, University of, University, N. D.	4	5	5
Northwestern University, Evanston, Ill.	5	6	6
Norwegian Technical University, Trondhjem, Norway	0	0	1
Norwich University, Northfield, Vt.	0	1	1
Nova Scotia Technical College, Halifax, N. S.	4	2	2
Ohio Northern University, Ada, O.	3	2	2
Ohio State University, Columbus, O.	23	29	28
Oklahoma A. & M. College, Stillwater, Okla.	3	4	5
Oklahoma, University of, Norman, Okla.	4	4	4
Oregon Agri. College, Corvallis, Ore.	4	5	5
Oregon, University of, Eugene, Ore.	3	3	3
Pasadena High School, Pasadena, Calif.	1	1	1
Pennsylvania College, Gettysburg, Pa.	1	1	1
Pennsylvania Military College, Chester, Pa.	0	2	2

Pennsylvania State College, State College, Pa.	16	19	25
Pennsylvania, University of, Philadelphia, Pa.	22	26	30
Pittsburgh Central H. S., Pittsburgh, Pa.	1	1	1
Pittsburgh, University of, Pittsburgh, Pa.	8	10	22
Polytechnic School of Engineering, Regents' St., London.	1	1	1
Pomona College, Claremont, Calif.	1	1	1
Pratt Institute, Brooklyn, N. Y.	8	7	7
Princeton University, Princeton, N. J.	2	3	4
Purdue University, LaFayette, Ind.	20	20	19
Queen's University, Kingston, Can.	0	0	2
Queensland, University of, Brisbane, Australia	2	2	2
Redlands, University of, Redlands, Calif.	1	1	0
Reed College, Portland, Ore.	1	1	1
Rensselaer Polytechnic Institute, Troy, N. Y.	5	8	8
Rhode Island State College, Kingston, R. I.	2	2	1
Robert College, Constantinople, Turkey	1	2	3
Rose Polytechnic Institute, Terre Haute, Ind.	3	4	4
Rutgers College, New Brunswick, N. J.	7	6	6
Santa Clara, University of, Santa Clara, Calif.	1	1	1
Sheffield, University of, Sheffield, England	1	1	1
Southern California University, Los Angeles, Calif.	1	1	1
South Dakota State College, Brookings, S. D.	4	6	5
South Dakota, University of, Vermilion, S. D.	1	1	1
St. Johns University, Shanghai, China	0	1	1
Stevens Institute of Technology, Hoboken, N. J.	13	14	16
Swarthmore College, Swarthmore, Pa.	1	2	2
Sydney, University of, Sydney, Australia	1	1	1
Syracuse University, Syracuse, N. Y.	4	8	7
Technical High School, Edmonton, Alberta, Canada	0	1	1
Tennessee, University of, Knoxville, Tenn.	2	3	3
Texas A. & M. College, College Station, Tex.	10	9	10
Texas, University of, Austin, Tex.	4	4	6
Texas State School of Mines and Metallurgy, Fort Bliss, Tex.	0	0	1
Throop College of Technology, Pasadena, Calif.	5	8	8
Tokyo Imperial University, Tokyo, Japan	1	1	1
Toledo University, Toledo, O.	0	0	1
Tome Institute, Port Deposit, Md.	0	1	0
Toronto, University of, Toronto, Canada	8	10	12
Trinity College, Hartford, Conn.	0	0	1
Tufts College, Tufts College, Mass.	14	12	14
Tulane University, New Orleans, La.	3	3	4
Union University, Schenectady, N. Y.	6	7	7

United States Naval Academy, Annapolis, Md.	0	0	2
Universidad de Chile, Santiago, Chile	0	3	3
Utah, University of, Salt Lake City, Utah	8	6	5
Valparaiso University, Valparaiso, Ind.	1	1	1
Vanderbilt University, Nashville, Tenn.	1	1	1
Vermont, University of, Burlington, Vt.	7	8	8
Virginia Military Institute, Lexington, Va.	3	3	3
Virginia Polytechnic Institute, Blacksburg, Va.	4	4	4
Virginia, University of, University, Va.	0	0	6
Washington & Lee University, Lexington, Va.	1	1	2
Washington State College, Pullman, Wash.	1	1	1
Washington University, St. Louis, Mo.	8	6	6
Washington, University of, Seattle, Wash.	13	13	12
Wentworth Institute, Boston, Mass.	9	12	12
West Philadelphia H. S. for Boys, Philadelphia, Pa.	1	1	1
West Virginia University, Morgantown, W. Va.	7	7	7
Whitman College, Walla Walla, Wash.	4	3	3
Williamson Free School, Williamson School, Pa.	2	2	2
Wisconsin, University of, Madison, Wis.	28	26	29
Wooster, University of, Wooster, O.	0	0	1
Worcester Polytechnic Institute, Worcester, Mass.	13	15	16
Worcester Trade School, Worcester, Mass.	1	1	2
Wyoming, University of, Laramie, Wyo.	3	4	3
Yale University, New Haven, Conn.	23	23	23

GENERAL SUMMARY.

MARCH 15, 1915.

Institutions Represented.	
Colleges and Universities Teaching Engineering.	
Domestic	145
Foreign	18
Manual, High, Correspondence and Trade Schools	25
Total Institutions	188
Institutional Members	48
Members	1,381
Total Members	1,429

GROWTH OF MEMBERSHIP.*

Aug.	20, 1894	156	
Sept.	2, 1895	184	
Aug.	20, 1896	200	(about)
Aug.	16, 1897	203	
Aug.	18, 1898	226	
Aug.	17, 1899	238	
July	2, 1900	249	
June	29, 1901	261	
June	27, 1902	253	
July	1, 1903	271	
Sept.	1, 1904	325	
June	28, 1905	379	
July	2, 1906	400	
July	1, 1907	415	
June	27, 1908	675	
June	24, 1909	759	
June,	23, 1910	848	
June	27, 1911	1,071	
June	1912	1,102	
June,	1913	1,158	
March,	1914	1,291	Institutional members.....48
March,	1915	1,381	Institutional members.....48

* These figures are taken from the reports of the Secretary, presented at the annual meetings, except the figures for 1914 and 1915, which were taken from the corresponding year book.

CONSTITUTION

OF THE

Society for the Promotion of Engineering Education

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1. NAME—This organization shall be called the SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION.

2. MEMBERS—Membership in the Society shall be of two general classes, Institutional and Individual.

Institutional members shall be educational institutions giving instruction in engineering and scientific subjects.

Individual membership shall be of two classes, Active and Honorary. It shall comprise those persons who occupy or have occupied responsible positions in the work of engineering instruction, together with engineering practitioners and other persons interested in engineering education.

Honorary Members of the Society shall be such persons as may be recommended by unanimous vote of the Council after a letter ballot. In taking this ballot, the Secretary is directed to close the polls one month after the names of the candidates are sent out. Councilors not heard from will be counted in favor of the candidate. Honorary Members shall not have the right to vote, shall not be eligible to office, and shall not be required to pay any fees or dues.

Any individual member not in arrears for dues may become a Life Member by paying Fifty Dollars into the treasury of the Society at one time.

The name of each candidate for individual membership shall be proposed in writing to the Council by two members by whom he is personally known. In the case of a candidate for Institutional membership the name shall be proposed by any member familiar with the work of the institution on receipt of an application signed by a responsible officer thereof. Such name, if approved by the Council, shall be voted on by the Society at the annual meeting, a vote of three-fourths of those present being required to elect; or, during the period between annual meetings, an affirmative letter ballot of three-fourths of those members of the Council whose vote reaches the Secretary within one month from the time of sending out the name of the candidate shall elect. Such letter ballot elections shall be credited to the previous annual meeting and dues shall date from that time, except that elections to membership occurring after

February 1 shall be credited to the next annual meeting and the dues for the remainder of the year shall be one-half the annual dues.

3. Officers—There shall be a President, two Vice-Presidents, a Secretary and a Treasurer, each to hold office for one year, or until their successors have been elected and have qualified. The Officers shall be elected by ballot of the Society at the annual meeting.

4. Council—The Council of the Society shall consist of twenty-one elective members, one-third of whom shall retire annually. The Officers and the Past Presidents of the Society shall be members of the Council ex-officio.

Any member of the Society shall be eligible to election to the Council, provided that not more than one elective member shall be from any one college.

Members of the Council shall be elected by ballot by the Society at its annual meeting.

The Council shall constitute a general executive body of the Society, pass on proposals for membership, elect candidates ad interim, attend to all business of the Society, receive and report on propositions for amendments to the constitution, and shall have power to fill temporary vacancies in the offices.

The President of the Society shall be Chairman of the Council, and the Secretary of the Society shall be Secretary of the Council and shall keep the minutes of its meetings and an accurate record of all its actions.

When votes taken by letter ballot of the Council shall be required, all votes which reach the Secretary within one month from the time of sending out the ballots shall be counted, but votes reaching the Secretary later than the time here specified shall not be counted.

5. Nominating Committee—The Nominating Committee shall consist of the Past Presidents and the seven elective members of the Council retiring the following year, provided, however, that if, of this committee, the number in attendance at any meeting be less than five, the President shall make appointments so as to form a committee of five.

6. Fees and Dues—The admission fee for an individual, active member, which shall also include the first year's dues, shall be Four Dollars ($4.00), and the annual dues, which shall include the subscription price of the Bulletin, provided for in Art. 8, shall be Four Dollars ($4.00), payable at the time of the annual meeting.

The admission fee for institutional members, which shall also include the first year's dues, shall be Ten Dollars ($10.00), and the annual dues, which shall include the subscription price of three copies of the Bulletin, and of the Proceedings, provided for in Art. 8, shall be Ten Dollars ($10.00), payable at the time of the annual meeting.

The fiscal year shall end with the close (or adjournment) of the annual

meeting. Those in arrears more than one year shall not be entitled to vote, nor to receive copies of the PROCEEDINGS, and such members shall be notified thereof by the Secretary one month previous to the annual meeting. Any member who has been in arrears more than two years and duly notified by the Secretary, shall be dropped from the roll, until such arrearages are paid.

7. MEETINGS—There shall be an annual meeting at such time and place as the Society at the preceding annual meeting, or the Council may determine.

8. PUBLICATIONS—The publications of the Society shall include an annual volume of PROCEEDINGS, to be published and distributed to the membership as soon as possible after the annual meeting; and a monthly BULLETIN, to be published from September to June, inclusive.

9. AMENDMENTS—This Constitution may be amended by a two-thirds vote of those present at any regular meeting of the Society provided the amendment shall have been approved by the Council by letter ballot by a two-thirds vote of the members voting.

BY-LAWS OF THE SOCIETY AND RULES GOVERNING THE COUNCIL.

First. The Officers of the Society shall constitute a Committee to arrange for the annual meeting and to prepare a program for the same.

Second. The President, the Secretary and the Treasurer shall constitute an Executive Committee which shall have charge of all matters relating to the expenditure of money of the Society, the making of appropriations to Committees and for other purposes, the making of contracts, the approval of bills, and also during the period between the meetings of the Council shall have charge of other business affairs of the Society.

Third. Expenditures of money may be made only in accordance with a definite appropriation or by direct vote of the Executive Committee.

Fourth. Reading of papers shall be limited to fifteen minutes each or to such other time as may be designated by the Program Committee, and abstracts of papers of about three hundred words shall be printed when practicable, and distributed in advance to the members.

Fifth. The time occupied by each person in the discussion of any paper shall not exceed five minutes.

Sixth. The President, the Secretary and the retiring Secretary shall constitute a Publication Committee, of which the Secretary shall be Chairman, to edit and have charge of the publication of the monthly BULLETIN and the PROCEEDINGS of the Society, except the volume of Proceedings of the last convention, which shall be edited by the retiring

Secretary. If at any time there be no retiring Secretary the retiring President shall be a member of this Committee.

Seventh. The Officers, members of the Council and members of the local Convention Committee shall constitute a Committee on Sociability to introduce members and guests to each other at the annual meetings and in general to promote a spirit of good fellowship.

Eighth. The subscription price of the BULLETIN shall be One Dollar per year, payable in advance.

Ninth. Additions or amendments may be made to these By-Laws at any regular meeting of the Society, on the recommendation of the Council by a two-thirds affirmative vote of the Council and of the Society.

PUBLICATIONS.

The publications of the Society can be obtained from the Secretary. The current issues are distributed gratuitously to members in good standing, one copy of each to each individual member and three to each institutional member. The price of the bound volumes of the PROCEEDINGS of former years is $2.50 to non-members, $2.00 to public libraries, and $1.50 to members for their own libraries.

The BULLETIN is issued monthly from September to June. The price to non-members is $1.00 per year. Libraries may order the BULLETIN and the PROCEEDINGS at $3.00 per year.

Reprints of papers may be ordered when the papers are in type form, and either with or without covers, at a price depending upon the number of pages and copies desired.

PAST OFFICERS

Special Committee for Division B, Engineering Education, World's Engineering Congress, 1893.

IRA O. BAKER, Chairman, HENRY T. EDDY, Vice-Chairman,
WM. R. HOAG, Secretary, C. FRANK ALLEN, Sec'y, *pro tem.*,
MORTIMER E. COOLEY, SAMUEL W. STRATTON,
STORM BULL.*

PRESIDENTS

DE VOLSON WOOD,* 1893–4, C. FRANK ALLEN, 1903–4,
GEORGE F. SWAIN, 1894–5, FRED W. McNAIR, 1904–5,
MANSFIELD MERRIMAN, 1895–6, CHARLES L. CRANDALL, 1905–6,
HENRY T. EDDY, 1896–7, DUGALD C. JACKSON, 1906–7,
JOHN B. JOHNSON,* 1897–8, CHARLES S. HOWE, 1907–8,
THOS. C. MENDENHALL, 1898–9, FRED. E. TURNEAURE, 1908–9,
IRA O. BAKER, 1899–1900, HENRY S. MUNROE, 1909–10,
FRANK O. MARVIN,* 1900–1, ARTHUR N. TALBOT, 1910–11,
ROBERT FLETCHER, 1901–2, WM. G. RAYMOND, 1911–12,
CALVIN M. WOODWARD,* 1902–3, WM. T. MAGRUDER, 1912–13.
G. C. ANTHONY, 1913–14.

VICE-PRESIDENTS

SAMUEL B. CHRISTY,* GEORGE F. SWAIN, 1893–4,
ROBERT H. THURSTON,* FRANK O. MARVIN,* 1894–5,
FRANK O. MARVIN,* CADY STALEY, 1895–6,
JOHN GALBRAITH,* JOHN M. ORDWAY, 1896–7,
THOMAS C. MENDENHALL, HARRY W. TYLER, 1897–8,
C. FRANK ALLEN, HENRY W. SPANGLER,* 1898–9,
ROBERT FLETCHER, CHARLES D. MARX, 1899–1900,
THOMAS GRAY,* ALBERT KINGSBURY, 1900–1,
STORM BULL,* CALVIN M. WOODWARD,* 1901–2,
JOHN J. FLATHER, FRED W. McNAIR, 1902–3,
CHARLES L. CRANDALL, JAMES C. NAGLE, 1903–4,
CLEMENT R. JONES, ELWOOD MEAD, 1904–5,
WILLIAM T. MAGRUDER, JOHN P. JACKSON, 1905–6,
CLARENCE A. WALDO, WILLIAM G. RAYMOND, 1907–8,
MORTIMER E. COOLEY, OLIN H. LANDRETH, 1908–9,
ARTHUR N. TALBOT, ARTHUR L. WILLISTON, 1909–10.

* Deceased.

PAST OFFICERS.

MILO S. KETCHUM, WILLIAM KENT, 1910–11,
G. C. ANTHONY, F. B. GILBRETH, 1911–12,
L. S. MARKS, F. W. SPERR, 1912–13,
H. S. JACOBY, D. C. HUMPHREYS, 1913–14.

TREASURERS

STORM BULL,* 1893–5, ARTHUR N. TALBOT, 1902–4,
JOHN J. FLATHER, 1895–9, FRED. P. SPALDING, 1904–6,
CLARENCE A. WALDO, 1899–1902, ANSON MARSTON, 1906–7.

SECRETARIES

JOHN B. JOHNSON,* 1893–5, HENRY S. JACOBY, 1900–2,
C. FRANK ALLEN, 1895–7, CLARENCE A. WALDO, 1902–4,
ALBERT KINGSBURY, 1897–9, MILO S. KETCHUM, 1904–6,
EDGAR MARBURG, 1899–1900, WILLIAM T. MAGRUDER, 1906–7,
ARTHUR L. WILLISTON, 1907–9, HENRY H. NORRIS, 1909–14.

MEMBERS OF PREVIOUS COUNCILS

Terms of Office Expired in 1894.

M. E. COOLEY, H. T. EDDY, W. F. M. GOSS,
W. R. HOAG, S. W. ROBINSON,* H. W. SPANGLER,*
R. H. THURSTON.*

Terms of Office Expired in 1895.

H. T. BOVEY,* W. H. BURR, O. H. LANDRETH,
MANSFIELD MERRIMAN, W. G. RAYMOND, G. F. SWAIN,
DE VOLSON WOOD.*

Terms of Office Expired in 1896.

I. O. BAKER, STORM BULL,* S. B. CHRISTY,*
JOHN GALBRAITH,* J. B. JOHNSON,* F. O. MARVIN,*
C. D. MARX.

Terms of Office Expired in 1897.

H. T. EDDY, J. J. FLATHER, J. P. JACKSON,
ALBERT KINGSBURY, L. S. RANDOLPH, S. W. ROBINSON,*
R. H. THURSTON.*

Terms of Office Expired in 1898.

C. F. ALLEN, C. L. MEES, MANSFIELD MERRIMAN,
J. M. ORDWAY, W. G. RAYMOND, CADY STALEY,
R. S. WOODWARD.

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* Deceased.

MEMBERS OF PREVIOUS COUNCILS.

Terms of Office Expired in 1899.

Arthur Beardsley,	Robert Fletcher,	John Galbraith,*
William Kent,	T. C. Mendenhall,	W. H. Schuerman,
	M. E. Wadsworth.	

Terms of Office Expired in 1900.

Storm Bull,*	L. G. Carpenter,	Albert Kingsbury,
F. O. Marvin,*	R. B. Owens,	R. L. Sackett,
	R. H. Thurston.*	

Terms of Office Expired in 1901.

T. N. Brown,*	M. A. Howe,	I. N. Hollis,
Gaetano Lanza,	P. C. Ricketts,	R. G. Thomas,
	C. M. Woodward.*	

Terms of Office Expired in 1902.

Brown Ayres,	G. W. Bissell,	J. J. Flather,
W. T. Magruder,	F. W. McNair,	J. M. Porter,
	A. J. Wood.	

Terms of Office Expired in 1903.

C. F. Allen,	D. C. Jackson,	N. C. Ricker,
J. P. Brooks,	Edgar Marburg,	A. L. Williston,
	J. C. Nagle.	

Terms of Office Expired in 1904.

W. F. M. Goss,	Thomas Gray,*	D. C. Humphreys,
O. H. Landreth,	W. G. Raymond,	L. E. Reber,
	L. S. Randolph.	

Terms of Office Expired in 1905.

Wm. Esty,	L. J. Johnson,	W. M. Towle,
H. S. Jacoby,	Elwood Mead,	J. L. Van Ornum,
	Edward Orton, Jr.	

Terms of Office Expired in 1906.

John Galbraith,*	Charles S. Howe,	Walter M. Riggs,
Frederick P. Spalding,	Henry W. Spangler,*	Fred. E. Turneaure,
	Herman K. Vedder.	

Terms of Office Expired in 1907.

Thomas Gray,*	James C. Nagle,	William G. Raymond,
Louis E. Reber,	Arthur N. Talbot,	Clarence A. Waldo,
	Robert S. Woodward.	

Terms of Office Expired in 1908.

Victor C. Alderson,	Arthur H. Ford,	H. P. Talbot,
Francis C. Caldwell,	Henry S. Munroe,	A. L. Williston,
	Frederick W. Sperr.	

* Deceased.

MEMBERS OF PREVIOUS COUNCILS.

Terms of Office Expired in 1909.

Charles F. Burgess, John F. Hayford, Thomas W. Palmer,
Arthur M. Greene, Jr., Milo S. Ketchum, Joseph A. Thaler,
Henry H. Norris.

Terms of Office Expired in 1910.

Fred W. Atkinson, Walter B. Russell, William S. Franklin,
Mortimer E. Cooley, William Kent, Charles F. Scott,
Harold B. Smith.

Terms of Office Expired in 1911.

Lester P. Breckenridge, Lewis J. Johnson, William G. Raymond,
Thomas Gray,* William T. Magruder, Herman Schneider,
Clarence A. Waldo.

Terms of Office Expired in 1912.

Frank H. Constant, H. Wade Hibbard, Edw. R. Maurer,
Frederick A. Goetze, John H. Leete, John C. Ostrup,
Chas. Russ Richards.

Terms of Office Expired in 1913.

C. H. Benjamin, E. E. Brydone-Jack, J. F. Hayford,
G. W. Bissell, W. H. P. Creighton, C. Russ Richards,
H. W. Tyler.

Terms of Office Expired in 1914.

J. E. Boyd, F. L. Emory, J. A. L. Waddell,
C. H. Crouch, C. E. Magnusson, A. J. Wood,
H. H. Stoek.

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* Deceased.

DECEASED MEMBERS.

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Philip R. Alger.....	1909....	February 23, 1912.	XX, Part II, 491
William A. Anthony..	1907....	May 29, 1908.	XVI, 409
George W. Atherton...	1904....	July 24, 1906.	XIV, 292
Warren Babcock.....	1908....	May, 1913.	XXI, 434
Volney G. Barbour....	1894....	June 4, 1901.	IX, 340
Charles B. Brush.....	1893....	June 3, 1897.	VII, 181
Storm Bull.....	1893....	November 18, 1907.	XVI, 407
Octave Chanute.....	1907....	November 23, 1910.	XIX, 501
S. B. Charters, Jr.....	1911....	December 29, 1912.	XX, Part II, 493
Eckley B. Coxe.....	1894....	May 13, 1895.	VII, 182
Thomas M. Drown.....	1895....	November 16, 1904.	XII, 244
Chas. B. Dudley.....	1894....	December 21, 1909.	XVIII, 446
Francis R. Fava, Jr....	1894....	March 28, 1896.	VII, 183
A. J. Frith.....	1911....	November 10, 1913.	XXI, 435
Estevan A. Fuertes...	1894....	January 16, 1903.	XI, 372
Henry Fulton.....	1894....	December 6, 1901.	X, 258
Thomas Gray.....	1895....	December 19, 1908.	XVII, 238
Herbert G. Greer.....	1894....	March 7, 1900.	VIII, 371
Lyman Hall.....	1904....	August 16, 1905.	XIV, 287
E. L. Hancock.....	1903....	October 1, 1911.	XIX, 505
Albert H. Heller.....	1903....	February 20, 1906.	XIV, 290
John B. Johnson.....	1893....	June 23, 1902.	X, 259
J. W. Johnson.....	1907....	August 29, 1911.	XIX, 506
Rodney G. Kimball....	1894....	April 25, 1900.	X, 261
Burton S. Lanphear...	1897....	October 14, 1904.	XII, 249
Benjamin F. La Rue...	1899....	December 22, 1903.	XII, 243
N. W. Lord.....	1907....	May 23, 1911.	XIX, 507
C. S. Magowan.....	1896....	November 14, 1907.	XVI, 406
Charles P. Matthews..	1898....	November 23, 1907.	XVI, 408
J. D. Newton.....	1908....	August 8, 1912.	XX, Part II, 490
T. M. Phetteplace.....	1903....	September, 7, 1913.	XXI, 436
S. W. Robinson.....	1893....	October 31, 1910.	XIX, 510
J. D. Schuyler.....	1910....	September 13, 1912.	XX, Part II, 494
Justus M. Silliman...	1894....	April 15, 1896.	VII, 184
T. Guilford Smith.....	1911....	February 20, 1912.	XX, Part II, 492
H. W. Spangler.....	1893....	March 17, 1912.	XX, Part II, 488

DECEASED MEMBERS.

Name.	Year of Election	Date of Death.	Memoir. Vol. Page.
James H. Stanwood....	1894....	May 24, 1896.	VII, 185
F. H. Stillman.....	1911....	February 18, 1912.	XX, Part II, 490
Robert H. Thurston...	1893....	October 25, 1903.	XII, 246
Alphonse N. Van Daell.	1897....	March 28, 1899.	VII, 186
J. A. Veazey.....	1911....	August 21, 1911.	XIX, 512
John R. Wagner.....	1894....	January 21, 1899.	VII, 187
Francis A. Walker....	1896....	January 5, 1897.	VII, 188
Howard S. Webb.....	1897....	June 12, 1905.	XIV, 286
Nelson O. Whitney....	1893....	March 17, 1901.	IX, 339
James R. Willett.....	1896....	May 9, 1907.	XV, 679
De Volson Wood.....	1893....	June 27, 1897.	V, 325
Calvin M. Woodward...	1894....	January 12, 1914.	XXI, 437
Chas. S. Dennison.....	1893....	July 31, 1913.	.....
Jos. E. Stubbs.....	1897....	May 27, 1914.	.....
S. B. Christy.....	1893....	Nov. 30, 1914.	.....
C. L. Adams.....	1904....	Sept. 16, 1914.	.....
F. O. Marvin.....	1893....	Feb. 11, 1915.	.....